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The JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

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EDITORIALS

SHORT-SIGHTED ECONOMY

Holding down the cost of medical education and being parsimonious about the building and maintenance of teaching hospitals represent unobtrusive ways of robbing the people of their rights. Every citizen in the State of Oklahoma has a right to demand medical care equal to the best available anywhere in the United States. At the time the Journal goes to press, indications point to the fact that there is little likelihood that the Medical School and University Hospital will receive the appropriation from the Legislature for which they have asked. If the money appropriated by the Legislature does not meet the needs of the school it must continue in the embarrassing probation status under which it has labored for years and cannot be placed in the category of one of the better medical schools in the land.

We cannot expect the taxpayers of other States to educate doctors for the people of Oklahoma. The University of Oklahoma School of Medicine represents an investment which pays big dividends at home and helps to pay our debt to society throughout the world. Graduates from our own Medical School served with skill and honor in practically every battle-scarred area on land and sea during the late World War. In civil life they are helping to forward medical science in many of the world's leading medical centers. If the citizenry of Oklahoma could figure the material value of the Medical School's contribution to the world they would be justly proud. But the material value is insignificant when compared to spiritual and other human values for which there is no tangible remuneration.

Considering the Medical School's place in the State, it may be said that the people have a right to demand reasonable economy in the administration of the schools and hospitals. On the other hand, strangling the Medical School certainly represents poor business. When the golden eggs cease to appear it will be too late to inquire, "Who is the goose?" The taxpayer reaching down in his pocket might develop a suspicion. Only through the teaching staff of the Medical School can fifty to one hundred thousand people be treated annually without cost for professional services. Conservative estimates show that this free service runs into fabulous sums which must be paid by the people if the school closes.

The school must close or drastically curtail its activities if the requested funds for operation are not made available. When the Medical School closes or drastically curtails its services, the University Hospital must do likewise or it must be staffed through taxation. If the professional services thus secured equal in skill and efficiency those supplied by the teaching staff, the cost will be great.

In the editorial columns of the Journal the destruction of medical schools, foundations, laboratories, and clinical facilities for the teaching of medicine in other countries has been pointed out. Even the qualified teaching personnel in Germany and the invaded countries has been decimated by intimidation, death, and exile.

Recently, before the Medical Society of the District of Columbia, Dr. Frank Lahey of Boston said we must not let the quality of medical instruction deteriorate because we must supply postgraduate medical education to the world. If the medical schools in the United States must assume this responsibility, the State of Oklahoma must at least continue to educate physicians for the people of Oklahoma.

A TIMELY TIP

Senior medical students and interns should not overlook the opportunities ahead in general practice. Before entering the marathon for certification in the specialties, every young physician should give serious consideration to the present trends and future possibilities. There are 180,000 licensed physicians in the United States. There are 26,000 certified specialists. At the present rate there will be 36,000 within another decade. If we add the uncertified specialists we will have over 50,000. With 30 per cent of available physicians in the specialties and only 10 to 15 per cent of human ills calling for highly specialized medical attention, would it not be wise to go into general practice where opportunities for success and satisfaction are being multiplied by overcrowding the specialties.

POSTGRADUATE MEDICAL TEACHING

The abstract of the lectures in Gynecology made available to the physicians of Oklahoma reflects great credit upon the Postgraduate Committee and should cause the State Medical Association, the State Health Department, and the administrators of the Commonwealth Fund to swell with pride.

The Bromwell Branch lectures are promoting health and saving life among the women of Oklahoma. The quality of medical practice and the rating of individual physicians in Oklahoma have been materially elevated by the work of the Committee on Postgraduate Teaching. Postgraduate teaching means postgraduate learning.

CANCER MONTH

Having just passed the month of April, designated as Cancer Month, physicians should pause to consider the significance of cancer statistics. The Metropolitan Life Insurance Company's 1946 Report indicates that the cancer death rate per 100,000 population increased from 64.0 in 1900 to 120.3 in 1940.

In the appraisal of this rather shocking increase, physicians must consider two important factors. Of first importance is the fact that the increase in average longevity places many more people in the cancer age level. Of almost equal interest is the increased cancer alertness on the part of both patient and physician. The praiseworthy popular publicity has caused many people to present themselves for examination and greater familiarity with the diagnostic criteria on the part of the physicians has led to the discovery of an increasing number of cases. The hope of cure rests in early diagnosis. Knowledge of this fact is being widely disseminated, consequently the physicians of Oklahoma must be quick to recognize the early symptoms and signs. This state must not lag behind in the recognition and treatment of cancer.

STREPTOMYCIN

The Army report on streptomycin is in line with the findings of those in civilian practice with the assigned duty of testing its therapeutic value and its toxic effects.

Streptomycin is reported as being in the general class with penicillin and "appears effective in appropriate doses against more than half the infective bacterial organisms ordinarily encountered by surgeons." The above is from the Halloran General Hospital report to the Surgeon General's Office. The "specific poisonous effects where given over an extended period" are recognized and attention is called to the fact that bacteria may become resistant to the drug, thus making it appear that it may be used only once with maximum effect within a limited period on the same patient.

It is suggested that its indiscriminate use may cause the drug to lose its value for a specific type of infection during the patient's lifetime. The hope that streptomycin might prove to be an effective means of combating tuberculosis is still held in abeyance: "The Army experience neither confirms nor refutes this [hope] since a much longer series of investigations will be required before there can be any valid conclusions."

Since the Army experience with the drug is the most comprehensive available, the above brief comments should be of value to the general practitioner who eagerly awaits the final verdict. The remaining uncertainty, the possibility of bacteria becoming streptomycin resistant, and the toxic effects should cool his ardor while he waits. At least diagnostic studies should be carefully pursued and indications well established before the drug is employed.

It may be said that streptomycin supplements penicillin and the sulfa preparations. Perhaps its chief function is to combat susceptible Gram-negative organisms. To date its most clearly defined indication is in tularemia.

SCIENTIFIC ARTICLES

THE CARDIAC IN PREGNANCY*

F. REDDING HOOD, M.D., F.A.C.P.
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This is a subject which would appear to be limited but actually covers a broad field. Large books have been written on the subject and there are cardiologists who limit their practice to this field alone. Only a few of the many factors involved can be discussed in the time allotted. Because of personal contacts, my impression and beliefs are influenced by those of Dr. Burton E. Hamilton of Boston Lying-In Hospital and will naturally follow closely those of his book, and we could do no better than to accept his definition for a cardiac in pregnancy as being "a woman whose heart may cause death or disability during the pregnancy or puerperium."

The criteria for diagnosis of heart disease make a list that is long and comprehensive. It can be simplified into four main points; that is, we can select our cardiacs if they have (1) cardiac enlargement, (2) diastolic murmur, (3) significant disorders of the heart beat, and (4) signs or histories of heart failures.

Enlargement means myocardial damage and if there can be no doubt about the increase in the size of the heart then there is no doubt as to the presence of cardiac pathology. The heart's size is sometimes difficult to determine and especially so in pregnant women. A diffuse or heaving impulse usually means an enlarged heart; however, extra cardiac factors such as fever, elevated metabolic rates, and other conditions producing an accelerated heart rate, may simulate the impulse as seen in myocardial hypertrophy. In a normal heart, the point of maximum intensity of the impulse, as measured from the midsternal line, should not exceed one-half the length of a horizonal line measured from the middle of the suprasternal notch to a point even with the clavicular scapular junction. An impulse that lies two or more centimeters outside the midsternal line indicates an enlarged heart. In all cases of doubt if the decision as to whether the case is a cardiac or not depends alone on a question of enlargement, then fluoroscopic examination with orthodiagram or x-ray examination should be made.

A diastolic murmur, regardless of its intensity or duration, means cardiac pathology. The specific criteria for diagnosis of valvular lesions is well covered in text books and by the book published on the subject by the New York Heart Association and need not be discussed here. Systolic murmurs may or may not have pathological significance, and Levine, in grading systolic murmurs from one to six, points out that grade one systolic murmurs have no significance; grade two are borderline and may or may not mean pathology; and that grade three through grade six means pathology. In those cases in which there exists a systolic murmur of clinical importance, there is almost always other evidence of pathology. One should possibly never classify a patient as a cardiac if the only evidence is a systolic murmur.

Disorders of the heart beat of clinical significance rarely occur without evidence of heart disease. Our classification of a patient as a cardiac does not depend so much then upon the finding of the arrhythmias. They do call attention to the heart and may lead to the finding of other evidence of cardiac pathology. They are important in placing the patient in the proper classification within the cardiac group and in determination of proper management of the case.

Signs or history of heart failure, like the disorders of the heart beat, accompany other evidence of heart disease. The presence or

*Presented before the Section on Obstetrics and Gynecology at the Annual Meeting, Oklahoma State Medical Association, May 2, 1946.

absence of the signs of cardiac failure, and the past history of failure are the most important factors that influence decision regarding the cardiac in pregnancy. The distinguishing criteria between the favorable and unfavorable cardiacs depends upon (1) signs or history of heart failure, (2) significant disorders of the heart beat, such as auricular fibrillation, (3) a cardiac with a complicating serious disease such as chronic nephritis, diabetes, tuberculosis, etc.

The load of pregnancy, as worked out by Hamilton and his co-workers, shows a slight rise during the second trimester with a rapid rise beginning toward the last of the fifth month, with a peak load during the sixth, seventh, and eighth months, with a lightening of the load during the ninth month. There is a small rise during delivery with a fall during the puerperium. It is then, during the sixth, seventh, and eighth months, that most cases will fail. Should they fail before the sixth month, the chance of failure during the period of the peak of the load is great. The load of pregnancy may change rapidly and patients should be watched carefully. A favorable cardiac may become an unfavorable cardiac during this early period, and if interruption is to be considered, action must be taken before the beginning of the sixth month. If a patient is allowed to enter the sixth month as an unfavorable cardiac or becomes an unfavorable cardiac during the sixth, seventh, or eighth months, then no effort should be made to terminate the pregnancy as it will impose an additional load on a heart already overburdened. An effort should be made to carry the patient along towards term when the load is automatically lightened and termination of pregnancy during this time of the peak load should be for extra cardiac factors only.

Congestive failure, which is the sole cause or the contributing cause of death in two-thirds of the fatalities in a series at the Boston Lying-In Hospital, deserves special consideration. There has been a feeling for many years that labor is the test of failure, but observation has shown that heart failure rarely occurs during or following a delivery. If a patient has reached term and has passed through the period of the peak load without apparent failure and then develops congestive failure, then the patient either had heart failure for some time before labor began which was overlooked or there was an added load from causes other than the process of the development or termination of labor.

In any cardiac, there is a load level beyond which congestive failure may take place. This level may change from time to time and is influenced by many factors; that is, a favorable cardiac may become unfavorable by virtue of development of serious arrhythmias and may fail with a lower load level. There is a load on the heart even with conservative living; add to this the even small load in the early month of pregnancy and the heart may fail during the first few month of pregnancy. If the heart is able to compensate for the extra burden, it still may not be able to carry the burden of the peak load. On the other hand it may be able to carry the basic living load and the peak load of pregnancy but fail due to the added burden such as infection, gain in weight, unusual or unnecessary activity, or some of the common removable burdens on the heart. The heart may fail at any time, and I know of no way to accurately foretell the load level beyond which the heart will decompensate. Function tests are unreliable.

One of the principle problems of the cardiologist in a case of pregnancy is the prevention of congestive failure. A thorough, adequate consultation with the patient is necessary, following the complete history and physical examination with necessary laboratory studies, in order that she and her family may understand and appreciate the need for care and precaution beyond that in the usual case of an expectant mother. She should understand that because of the rapidity with which the situation may change, she should report at regular stated intervals and at the onset of any unusual sign or symptom of illness she should go to bed and notify the physician immediately. Activity should be reduced to only that reasonably necessary, making about the same amount of physical effort each day, and she should avoid becoming tired and should not do enough to become short of breath. The development of dyspnea, orthopnea, cough, or blood spitting are causes for immediate reporting for a check up.

A program must be undertaken for the correction of the common, removable, undesirable burdens on the heart. It has long been known that an obese cardiac will show great improvement as the weight is reduced. A woman whose normal weight is 120 pounds and who weighs 150 pounds has 25 per cent more weight than she should and each pound of flesh requires nourishment through circulation which adds to the pumping effort of

the heart. Reduction of the load may more than offset the added load of pregnancy. Many clinics allow only a maximum gain of 15 pounds in pregnancy for any cardiac.

Anemia may cause heart failure, and even mild anemias added to the load in pregnancy may swing the balance and bring on failure. The Boston group has a rule to "be dissatisfied if a cardiac in pregnancy has a red blood count less than 4.5 million per cubic millimeter of blood, or a hemoglobin estimation of less than 80 per cent." This seems to be a good rule to follow.

Other removable or correctible burdens include oral asepsis, psychoneurosis, functional gastro-intestinal disturbance, chronic bronchitis, diabetes, gallbladder disease, peptic ulcer, thyrotoxicosis, etc. All should be removed or corrected insofar as possible.

If congestive heart failure develops, it is of extreme importance that it be recognized early. The pulmonary hypertension, with its possible congestion of the pulmonary blood vessels, may give rise to paroxysmal dyspnea in cases of coronary artery disease, hypertension, or with aortic regurgitation, and is considered left-sided failure, while venus congestion with engorgement of the liver and dependent edema, are evidence of right-sided failure. When one occurs, the other usually follows very quickly, and I feel that it is better to consider them together as congestive heart failure, and the earliest reliable sign of congestive heart failure is persistent rales in the lung bases posteriorly. Diminished vital capacity may indicate early failure but a single reading is of no value and repeated readings in untrained patients without adequate supervision may have no value. Hoover's signs, that is, lagging of the ribs along the insertion of the diaphragm or even retraction at the end of full inspiration, is helpful in nonpregnant patients but may be present in noncardiac pregnant patients due to the extra tension on the diaphragm. Cough and breathlessness with usual activity may indicate early failure. Hemoptysis, nose bleed, venus congestion, liver enlargement, dependent edema, unusual gain in weight, are later signs which should be watched for.

Treatment of congestive failure in pregnancy is not much different than in other cardiacs. Early recognition is important and the patient should be placed on bed rest. They should be comfortable, with the head elevated sufficient to overcome dyspnea. The back should be straight, and this may be accomplished by raising the head of the bed rather than having the patient propped up in bed. Nursing care to relieve the patient of as much care and exertion is important, if available. Oxygen and sedation have their proper place in securing proper rest.

Control of diet and fluid intake are second only to bed rest in importance. The Korrell diet of 28 ounces of milk in four equal feedings during the first two or three days with no other food or fluid intake has been used for many years and is still a popular method of treatment. Cereal, extra milk, or orange juice may be added later. The fluid intake should be limited to 1500 cc. until compensation is restored. In some severe stubborn cases of cardiac failure, fluids have been entirely withheld for as long as 72 hours. The diet and fluid intake should be controlled for the remainder of her life once a patient has developed congestive failure.

Removal of fluid from the pleural cavity by thoracentesis is advocated, although I feel that the indications for its removal depends on its need for diagnosis and then only on respiratory embarrassment. Venesection may be considered in some cases especially those with left ventricular preponderance and left-sided failure.

Sollis Cohen once wrote that "digitalis is never merely harmless, it is either needed and useful or it is needless and harmful." When symptoms and signs indicate that the heart has failed to function properly as a pumping mechanism, then and only then is digitalis indicated; otherwise it is contraindicated. Certainly, in congestive failure, its use is indicated. It is not indicated merely by the presence of valvular disease or altered rhythm unless signs of failure are present. It stimulates the vagus nerve, slowing conduction, and acts as a protoplasmic poison, has a direct action on the muscle fibres increasing their irritability and contractility hence increasing tone, and it lengthens refraction. In the absence of failure ectopic rhythm may be produced, cardiac output may be lessened, and actual harm may come from its use. There is likewise nothing to be gained from small tonic doses nor the giving of small amounts in the hope of being prepared to digitalize the patient if failure occurs. Once a patient fails and digitalization is obtained, it should be continued at least until after the puerperium. Quinine, which decreases the tone. is not indicated in congestive failure until tone has been restored through the use of the digitalis group and then it is not needed.

The diuretics are a useful adjunct in the treatment of congestive failure and need no discussion here.

From the standpoint of the cardiac patient, conservative obstetrical care is the rule of choice. Since failure seldom begins in labor or in the puerperium interruption after the fifth month and before term is unnecessary and dangerous. Delivery by abdominal surgery has resulted in a high mortality for both mother and baby and should be done only when there are obstetrical indications, and not for cardiac reasons. Delivery should be made as easy as possible, and that we leave to the obstetrician.

Before delivery, most of the complications that arise, except for infection, especially respiratory infection, are dependent on the cardiac pathology. But after delivery they are nearly all due, not to the heart, but to obstetrical factors. Many may give rise to symptoms suggesting congestive failure such as embolism, surgical shock, massive collapse, sepsis, etc. When congestive failure does appear, one should be careful to determine the severe complication which has produced it. From the cardiac standpoint, the after care consists of diet and fluid control, a minimum of three weeks in bed with a gradual return to her optimum of activity.

The most common problem which the cardiologist is asked to decide is that of interruption of pregnancy or advising against pregnancy. I feel very definitely that any pregnant cardiacs or a cardiac contemplating pregnancy should be completely advised regarding her condition, the hardships she may have to endure, the possible restriction of her activity, the economical and social losses that may be entailed. If she is a favorable cardiac, she should understand that the maternal death rate for favorable cardiacs is 2.5 per cent as against a death rate for all pregnant women of .3 per cent, and that the fetal mortality for this type of case is 17.3 per cent, and should she develop congestive failure that it is 29 per cent. If she is an unfavorable cardiac, she should know that one mother out of each six losses her life, or if she has auricular fibrillation, one out of three will die, and her chances of losing her baby are 44 per cent unless auricular fibrillation is present, then they are 50 per cent. I believe these facts should be made known to the patient and her family; then knowing the risk involved, the decision is her's and not the concern of the physician. Should she wish to face the risk of pregnancy, then we, as cardiologist and obstetrician, must aid and guide her to the best of our ability.

CHRONIC RHINITIS*

RALPH W. RUCKER, M.D.

BARTLESVILLE, OKLAHOMA

To the most recent of those repulsive minor medical bugbears in which the American public delights has been given an equally repulsive name, "postnasal drip." It brings up the rear of quite a procession of fearsome public enemies: halitosis, barber's itch, pyorrhea, "strep" throat, "athlete's foot," and some others. So states Dr. Proetz regarding a disagreeable symptom that brings many patients to see the otolaryngologist.

The above is one of the almost constant symptoms along with nasal obstruction which bring the patient with chronic rhinitis to the doctor to seek relief. Nasal obstruction is almost constantly present, varying from partial permeability to complete closure of the nasal chambers. Nasal obstruction constitutes a very annoying symptom; this is especially true at night. The obstruction alternates from side to side, ofttimes changing rapidly without apparent cause. Mouth breathing at night is frequently complained of, which results in extreme dryness of the mouth and throat. Other symptoms frequently mentioned are tinnitus and a sense of fullness in the ears, with a slight loss of hearing in some individuals; sensations of fullness about the forehead with intermittent attacks of pain over the frontal sinus area; cough and constant clearing of the throat due to the presence of secretion in the throat.

*Presented before the Section on Eye, Ear, Nose, and Throat at the Annual Meeting, Oklahoma State Medical Association, May 3, 1946.

Due to the fact that all too frequently many otolaryngologists tend to belittle or ignore these almost constant and worrisome complaints in chronic rhinitis, and the frequency with which these patients tend to elevate their symptoms into the realm of a serious illness and demand relief, it behooves us to attempt a rationalization of the etiology and treatment of this common condition. We feel that more consideration should be given to these patients.

Suffice it to say that chronic rhinitis is a very common disorder. It has been classified as vasomotor, common intumescent, allergic, hypertrophic, and hyperplastic rhinitis.

The nasal mucous membrane lines the nasal cavities. From the nasal cavities its continuity can be traced to the conjunctiva through the nasal-lacrimal ducts, and with the frontal, ethmoidal, sphenoidal, and maxillary sinuses through their numerous meati. The mucous membrane of the nose and sinuses is a specialized tissue, a pseudostratified ciliated columnar epithelium. Normal respiratory membrane does not exist after the first few months of life, since low grade inflammatory changes are always present. The turbinates are covered by typical respiratory epithelium which consists of a layer of pseudostratified ciliated columnar cells resting on a single layer of basal cells. The inferior turbinate possesses a large number of cavernous spaces in its stroma, with few glands; the middle and superior turbinates contain many glands and few cavernous spaces. In chronic rhinitis there appears a swelling of the superficial epithelium cells. There is usually an increase, frequently very marked, of the fluid in the tissue spaces with a marked dilatation of the cavernous spaces so numerous in the inferior turbinates. There is also a marked increase in the cellular content of this tissue by an infiltration of lymphocytes, plasma cells, and eosinophiles.

The first step in the management of these cases is a careful history. It is one of the most important aids in deciding what type of treatment is to be used. In the allergic cases the history may show that the symptoms have a seasonal incidence indicating sensitivity to certain pollens. The improvement of symptoms by a change of climate or a vacation away from home are indicative of allergens inhaled from the air. An increase of nasal symptoms accompanied by gastro-intestinal disturbances are suggestive of food allergy. Perennial nasal congestion, usually worse at night and in the early morning, is suggestive of a sensitivity to mattress dust, feathers, cotton, wool, etc., that the patient is in contact with during the night.

When the examination and history indicate an underlying allergy, skin tests should be done. Group testing by the intradermal route has been found very successful with the inhalants. These include the animal danders, common inhalants, and house dust. If the symptoms are seasonal the common pollens are tested for. As skin tests for foods are notoriously inaccurate, we feel those cases suggestive of food sensitivity should be placed on an elimination diet. We use the diets recommended by Rowe, which are essentially wheat, milk, egg-free diets which also eliminate other common food offenders. After ten days if symptoms have improved wheat is added for a week, followed by milk, eggs, and other eliminated foods until an increase in symptoms is noted, usually first manifested by gastro-intestinal disturbances.

In many patients with chronic rhinitis mechanical obstruction to breathing is present in the nose. Obviously this should be corrected if possible. A deviated septum which comes in contact with a hypertrophied middle or superior turbinate may be the cause of the patient's symptoms. Polypi which are obstructive of course should be removed.

Hansel has been able to demonstrate that a large number of cases of chronic rhinitis are due to allergy. However, in a large number of these patients the allergic factor cannot be determined. In those cases, or where allergic management has failed to give the desired relief, many methods of treatment have been recommended. Surgical removal of all or parts of the inferior turbinate has been done. Frequently this is followed by synechiae between the septum and the turbinates; occasionally atrophic rhinitis may be induced. Chemical and electrical cauterization of the turbinates have been used, but destruction of the mucosa with resultant loss of ciliary action makes these methods less acceptable. Various types of sclerosing chemicals have been used, including hypertonic saline solution, glycerin, and alcohol. Necrosis and nerve tissue degeneration are very objectionable aftermaths of these agents.

Fishhof originally described the treatment of vasomotor rhinitis and allied conditions with sodium morrhuate. The technic is as follows: First, thoroughly cleanse the nose. The mucosa is then anesthetized with two per cent pontocaine solution. We feel this is superior to cocaine, first because there are

less systemic reactions, and secondly, shrinking of the tissue is not so pronounced. A strip of cotton or gauze is placed along the floor of the nose to absorb any of the solution which might escape from the turbinate. A number 22 spinal puncture needle on a tuberculin syringe is used. The anterior tip of the inferior turbinate is entered, the needle being kept as close to the periostium as possible, and inserted to the posterior tip of the turbinate. As the needle is slowly withdrawn, ½ cc. of a five per cent solution of sodium morrhuate is injected between the periostium of the turbinate and the mucosa. On withdrawing the needle some bleeding will take place but is usually controlled in two or three minutes by a cotton pack. We have encountered no distressing side effects but patients frequently complain of a slight headache that lasts from one to several hours which is relieved by aspirin. Only one turbinate is injected at one sitting. A week elapses before injecting another turbinate. Two weeks is allowed to elapse before rejecting a turbinate. We have found in the average patient so treated two injections into the inferior turbinate are usually necessary for relief of symptoms. We have not felt the necessity to inject the middle turbinate in any of our patients. Relief of symptoms begins usually within two weeks after the first injection and continues for four to six weeks, remaining stationary after that time.

CONCLUSIONS

Those patients with chronic rhinitis, so frequently seen by many of us, complaining of nasal obstruction, postnasal secretion, vague headaches, etc., but without any obvious infection, should be investigated thoroughly. Many will be found to be allergic and respond to elimination of or desensitization to the exciting allergens; many others will be helped by injection of the turbinates with sodium morrhuate. The above procedures have seemed to be the most practical solution to this problem.

PILONIDAL CYSTS AND SINUSES*

BYRON J. CORDONNIER, M.D., F.A.C.S.

ENID, OKLAHOMA

During the past few years, considerable interest has been noted in the study and the improvement in treatment of this troublesome condition. Army physicians soon noted that they were confronted with the disease much more often than was customary in civilian life. Training for mechanized warfare was correctly assumed to be the cause, since trauma to the sacrococcygeal area was quite violent and persistent and dormant sinuses frequently became symptomatic, infected, cystic areas. Numerous articles soon appeared in medical literature on various methods of therapy designed to shorten the healing time. It should be observed in interpreting statistics from Army sources on the duration of hospitalization that they most frequently include the time for complete healing. Without doubt, much valuable knowledge was gained in the treatment and certainly it is applicable to civilian practice.

Hodges brought forth the term "pilonidal" in 1880 from "pilus," hair, and "nidus," nest. Many other names have been suggested, such as sacrococcygeal cyst or sinus. A. W. Anderson of Boston reported on this lesion in an article entitled "Hair Extracted from An Ulcer." Johnathan M. Warren of Boston gave an excellent description in 1854, and 13 years later published further experiences. Since then, numerous articles have appeared. Recent studies by Drs. H. B. Stone, S. L. Fox, and M. Gage are particularly valuable.

Pilonidal sinuses are generally conceded to be of congenital origin. Some workers feel that they represent a remnant of the medullary canal due to an abnormality of development in the neural tube. Other workers believe that there is an infolding of surface epithelium in early embryonic life. Pathologically, as the name suggests, a pilonidal cyst is a hair containing dermoid cyst in the sacrococcygeal region. It is situated in the posterior raphe over the coccyx. There may be a sinus opening on a postanal dimple.

*Presented before the Section on Surgery at the Annual Meeting, Oklahoma State Medical Association, May 3, 1946.

The lesions occur most often in the people of the pituitary type with broad hips and considerable hair. In the white race, males are afflicted three times oftener than females, but the ratio appears to be reversed in the colored races. There is considerable evidence that there is a familial trend, since it is quite common to find more than one member of a family with the condition.

The physician is consulted, as a rule, during the first episode of infection. Frequently, this is the initial indication to the patient that any abnormality exists. Infection is ushered in by pain, swelling, and other evidences of localized sepsis. Due to the depth of the cysts, considerable time elapses before spontaneous drainage occurs and the patient usually seeks relief before this happens. After all the inflammatory process has subsided, the only thing noticeable to the examiner is a small palpable tumor mass and most commonly a small sinus area from which purulent material may be expressed.

The correct surgical management has caused much controversy among competent surgeons. Prior to the war, excision without closure of the wound was probably the method of choice. However, healing took two to three months or longer and this fact caused much discontent among medical men charged with the responsibility of keeping as many soldiers on duty at all times as possible. Consequently, the possibility of primary closure was fully investigated.

The author apologizes for being unable to bring exact figures on a small series of cases that were managed by the methods described herein. Approximately 30 cases were operated with primary closure with excellent results in 70 to 75 per cent. Nothing new was attempted but an effort was made to institute simple, effective management that could be applied to most of the cases. A rather sudden change to a foreign clime interrupted a careful analysis.

Briefly, I would like to mention the various methods of surgical treatment advocated with recent time: (1) Excision without suture (open method); (2) Excision and packing with a sclerosing agent (Heyd); Carnoy-Cutler solution of absolute alcohol 6 cc., chloroform 3 cc., glacial acetic acid 1 cc., and ferric chloride 1 gram is recommended; (3) Partial closure (MacFee and others); (4) Excision by cautery (Rogers); (5) Primary closure by (a.) Simple closing suture, (b.) Use of muscle flaps to close defect, and (c.) Use of various plastic procedures in closing the defects, all of which are designed to lessen tension on the suture line. Lahey's sliding graft and Gage's stellate closures are examples of this.

Cases coming to dispensaries with infection were hospitalized and simple incision and drainage was done. By using hot sitz baths and good wound management, healing was usually complete in two weeks. All of these cases were returned to duty with instructions to report to the dispensary in one month. At that time, all evidence of inflammation was usually absent and only slight tenderness could be elicited. In most cases, a small palpable mass was present representing the cystic area. The patient was again hospitalized and prepared for surgery in the following manner. Full doses of sulfonamides, preferably sulfadiazine, were given for three days prior to surgery. Blood level determinations were made to assure adequate concentration. Daily tub baths were given with instructions to use soap and water abundantly. The bowels were well cleansed before surgery and the patient was given only liquids the day preceding surgery.

The anesthetic of choice was of a low spinal type using 100 to 120 mg. of novocain crystals. It was deemed better not to use a local anesthetic, first because of the potentially infected area and secondly because adequate relaxation was desired. The patient was turned on his face in a moderate jackknife position and the buttocks were spread by using broad bands of adhesive straps fastened to the edge of the buttocks and anchored to the table. The area was then prepared surgically by soap and water followed by alcohol and a mercurial antiseptic.

No dye was injected into the sinus tracts because it was felt that this only caused confusion in distinguishing normal and abnormal tissue. An elliptical incision was made begeinning at a point one to two centimeters above the anus and extending well above the uppermost limits of the cystic area. Every effort was made to conserve skin. In cases of sinus tracts opening lateral in the buttocks, a "cloverleaf" incision was made and the tract removed. Dissection was carefully carried down to the sacrococcygeal ligaments and it was soon noted that it was not difficult to ascertain when the cystic area or a sinus tract was approached due to the color and the consistency of the tissue. Bleeding was carefully controlled, mostly by pressure, so that vision would be unimpaired. This pro-

cess was performed on both sides of the tract and it was removed en masse.

Experience has shown many surgeons that most so-called recurrences are the result of serum collection in a dead space and the resultant defect is not a pilonidal cyst. Therefore, we sought a suture that was nonirritating in order to reduce the amount of serum in the wound. Cotton sutures size 60 for ligation and size 30 for suture were selected. Careful hemostasis was first accomplished. The fatty tissue on each side was then approximated by interrupted cotton stitches and no effort was made to suture this to the ligaments. Coaptation of the wounds was facilitated by medial pressure on the buttocks as the sutures were tied. The skin was also closed with cotton. Realizing that a dead space was left by this manner, a pressure dressing was then made, making a cone shaped dressing out of gauze fluffs. There were bound down by broad bands of adhesive which went around the body, well onto the abdomen.

The patient was permitted to lie on his back or sides. Sulfonamide therapy was continued for three more days. He was kept on a liquid and soft diet and an enema was given on the fourth morning. The dressing was first changed on the tenth day when the skin stitches were removed. The patient was permitted out of bed at that time.

If hyperpyrexia occurred during the postoperative course, the dressing was removed, warm moist dressings applied, and drainage established, if indicated. Most of these cases did not require a complete reopening of the incision and made a nice recovery.

In two cases gross infection occurred and the wound was opened and treated as by the open method. The results by this method were most gratifying. The scars were firm and nontender and no readmittances were encountered for this reason in the short time observation was possible. This method appears to be applicable to most cases and a need for a complicated plastic procedure was not felt.

CONCLUSIONS

1. Pilonidal cysts were encountered frequently in Army medicine due to trauma to the sacrococcygeal area.

2. They are of congenital origin, occurring most often in the pituitary type individual. Familial tendencies do exist.

3. The simple surgical management outlined produced satisfactory results in a small series of cases.

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DISCUSSION

MALCOLM E. PHELPS, M.D.

EL RENO, OKLAHOMA

First, I would like to congratulate Dr. Cordonnier on his excellent presentation of this important subject. The importance of this condition is attested by the fact that some military hospitals have reported that as high as 10 per cent of all the operations that were performed in their hospitals were for the correction of this condition. While we must admit that the trauma of military service undoubtedly aggravated these lesions, we in civilian practice must accept a large portion of the responsibility for failing to adequately treat patients with pilonidal sinuses. Many operations which were formerly done for the correction of these sinuses left much to be desired. This is attested by the fact that so many types of operations have been described for the correction of these sinuses and most of them have left a great deal to be desired and many were not even based on sound surgical principles.

There are several points in Dr. Cordonnier's paper which I feel should be emphasized. First, I believe that everyone will agree that the acute lesions should be treated by adequate drainage and that this should be followed by more extensive surgery at a time when the patient has been properly prepared. Secondly, I believe that everyone now agrees

that primary closure is preferable if it is at all possible.

Certainly Dr. Cordonnier's suggestion that these patients should have preoperative and postoperative sulfonamides is desirable. Possibly the very judicious use of the sulfonamides locally at the operation might have some value. I also believe that the administration of penicillin postoperatively would reduce the incidence of infection and the breaking down of these potentially infected wounds. While there are many cases in which penicillin is not necessary, I can find no contraindication to its use.

I believe that Dr. Cordonnier's choice of spinal anesthesia, if there are no contraindications, is very wise, although more bleeding occurs with this type of anesthetic than when a local anesthetic of novocain and adrenalin is used. However, the repeated punctures with the resulting danger of infection I believe greatly outweigh this advantage. It is always very important in this type of operation that meticulous hemostasis be carried out regardless of the type of anesthetic used.

The choice of cotton suture is wise as it certainly causes less tissue reaction than other suture, with the possible exception of certain metallic sutures which are more uncomfortable to the patient and are more likely to be tied tightly so that the tissue will be cut through, rather than approximated. Most of the cotton which I have used will break if tied too tightly, making it almost impossible to strangulate the tissue in the suture. In using cotton, we must always keep in mind Ochsner's precepts for its use.

In addition to the serum collections which become infected and cause a breaking down of the wound, as Dr. Cordonnier has mentioned, failure of a primary closure is also caused by: (1) the attempted closure of grossly infected tissue too soon after the drainage of the acute suppurative processes and (2) the attempted closure of defects which are too wide, thus causing a cutting of the tissue and a giving away of the suture. The excessive tension may result in a dead space being formed which could become filled with serum, which is an ideal culture medium for the bacteria present. The third cause of a failure might be the incomplete removal of the sinus tract.

Primary closure should not be considered unless the lateral walls can be closed without undue tension and then only if the postsacral fascia remains intact. In this connection, I wonder if it would not be advantageous for the suture which incorporates the deep areolar tissue on both sides to incorporate also a wide portion of this postsacral fascia and thus eliminate the possibility of another dead space.

AMERICAN MEDICAL ASSOCIATION CELEBRATES 100TH BIRTHDAY

The American Medical Association was 100 years old on May 5, 1947. It was on that same day of the month in the year 1847 that delegates to the National Medical Convention met in the hall of the Academy of Natural Sciences in Philadelphia and founded the American Medical Association. The Association, which today has a membership of more than 130,000 physicians will celebrate its founding at the annual session in Atlantic City, June 9, 1913. The program will represent a high point in the assemblages of physicians anywhere in the world.

The centennial session in Atlantic City is expected to attract more than 15,000 physicians. More than 400 medical papers will be read during the five-day meeting, covering such subjects as the antihistamine drugs, infantile paralysis, cancer, the antibiotic drugs — penicillin and streptomycin — and radioactive products in medicine. Several distinguished English medical men have been invited to take part in the scientific meetings.

On Saturday, June 7, the Board of Trustees and officers of the Association will tender a banquet to leaders in the industries and occupations associated with medicine. General Omar Bradley of the Veterans Administration, Washington; Basil O'Connor, New York, chairman of the American Red Cross and president of the National Foundation for Infantile Paralysis, and H. W. Prentis, Jr., president of the Armstrong Cork Company, Lancaster, Pa., will comment on the influence of American medicine on the Nation's progress.

Oklahoma and Kansas State Medical Associations will have a "Special Train" for state physicians and their wives — deluxe accommodations and choice of two post-convention tours. Those physicians who have not already done so are urged to make reservations now through the Rainbow Travel Service, First National Building, Oklahoma City, Mr. Harry Kornbaum, Manager.

STAPHYLOCOCCUS ULCER OF THE CORNEA

WERNER W. MALL, M.D.
PONCA CITY, OKLAHOMA

The patient was a male, age 39, injured March 16, 1945. While the patient was loading pipe some rust flew in his right eye. The foreign body was removed from the cornea in the usual manner about three hours following the injury.

At the time of the removal there was a denudation of the cornea over an area about two millimeters in diameter surrounding the foreign body. He was placed on 10 per cent argyrol and sulfathiazole ophthalmic ointment. On the following day, March 17, the denuded area continued to spread and the patient was having considerable pain. He was placed on sulfanilamide by mouth and pontocaine ophthalmic ointment for pain, as well as morphine by mouth, and the pupil was dilated. The following day he had the beginning of a definite ulcer with iritis and iridocyclitis. A smear and culture taken at this time showed Staphylococcus albus. The ulcer was cauterized with an iodine preparation. The following day, March 19, the ulcer was continuing to spread and the cauterization was repeated. In addition, penicillin drops were employed every two hours, penicillin ointment not being available at the time. The patient was given 40 million mixed typhoid bacteria intravenously. On March 20, the ulcer was scraped and cauterized with trichloracetic acid.

On March 21, the scraping was repeated and followed by cauterization. Fifty-five million mixed typhoid bacteria were given intravenously. On March 22, cauterization was repeated because the ulcer was still spreading. Urinary retention developed and the sulfanilamide was discontinued. The patient was placed on sodium salicylates with full dosage of multiple vitamin tablets. On March 23, the ulcer had spread to seven millimeters in diameter and again it was cauterized and 1,000 units of vitamin C were given intravenously. On March 24, the ulcer had spread to eight millimeters in diameter. He was given 65,000 mixed typhoid bacteria intravenously and placed on 20,000 units of penicillin every three hours, intramuscularly. In view of the unsatisfactory progress, the Thermophore was applied to the ulcer for one minute at 135 degrees Fahrenheit under 10 per cent cocaine. Vitamin A drops were used in the eye. Intravenous anesthesia was found to be much more satisfactory, as the application is very painful under local anesthesia. By the following day the ulcer showed a definite healing of one and one-half millimeters around the entire margin of the ulcer, and within the next 24 hours, one-third of the ulcer had healed.

Two days later, March 28, the ulcer flared up and began spreading through the healed area. Again the Thermophore was applied for one minute at 135 degrees Fahrenheit. Within 24 hours the ulcer again showed definite signs of healing and continued to do so until on April 3, when it had entirely healed, except for two millimeters in the center. On April 5, the ulcer again began spreading and it was cauterized with the iodine preparation. However, by the following day there was evidence of a further spread through the healed area with marked increase of subjective symptoms. The ulcer was scraped and smears and cultures were made. Again the Thermophore was applied. At this time both the smear and the culture were negative. General medication was continued as previously described. On April 7, the patient was given a series of 10 cc. whole boiled milk intramuscularly every other day for three injections. The vitamin drops and the argyrol drops were discontinued and neoprontosil drops employed.

*Presented before the Section on Eye, Ear, Nose, and Throat at the Annual Meeting, Oklahoma State Medical Association, May 3, 1946.

On April 9, liver extract with vitamin B_1 was given because of a reduction in the red blood count to four million with an 80 per cent hemoglobin and general malaise. Ultraviolet ray, ten millimeters distant, was applied for 30 seconds, increasing to one minute the next five days. The ulcer continued to heal slowly with receding symptoms, and the patient was dismissed from the hospital on April 29. At that time the ulcer no longer took any stain and was apparently completely healed.

The patient was then placed on dionyn drops with optochin hydrochloride and given light doses of ultraviolet in an attempt to absorb as much of the scar as possible. His vision by May 20 was 20/60, and this continued to improve so that by June 1, he had a vision of 20/40.

He was allowed to return to work on June 4, but was kept under observation and treatment at the office. By June 15, his vision had increased to 20/25, and on a recheck August 15, he had a vision of 20/20 minus 2, and had no difficulty with any of his occupational duties.

In conclusion, it is my opinion that the Thermophore application was the one leading factor in this patient's recovery. It was definitely the only procedure that produced definite healing. The results were obvious within 24 hours after each application.

To further substantiate this conclusion, I would like to mention another case treated in November of 1944. It was an exact duplicate of this case in every respect. In the latter case the Thermophore was not applied for seven weeks following the injury, although the patient was placed on the same medication as in the case just presented. Not until the Thermophore was employed did this patient show any improvement. The Thermophore was not used until he developed hypopyon in the anterior chamber. The ulcer healed in 15 days following three applications of the Thermophore. With the same treatment for absorption of the scar, his vision four months later was 20/100; and with continuation of treatment, his vision finally improved to 20/60. Had the Thermophore been used earlier in this case, it is most probable that loss of vision would have been less. It is my opinion that we have a probable tendency to rely too much on our newer drugs and tend to neglect some of the more radical surgical and semi-surgical procedures which proved beneficial in the past. The fundamental principle of treatment has not changed, but we do have the great advantage of the tremendous aid our new drugs have given us in hastening the recovery of our patients.

MEET OUR CONTRIBUTORS

Ralph W. Rucker, M.D., of Bartlesville, is the author of "Chronic Rhinitis" published in this issue. A graduate of the University of Oklahoma School of Medicine in 1936, Dr. Rucker received his Oklahoma license in 1937. His practice is limited to EENT. He is a member of the Washington-Nowata County Medical Society, the OSMA, and the A. M. A.

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Frederick Redding Hood, M.D., F.A.C.P., Oklahoma City, who limits his practice to cardiovascular diseases, is the author of "The Cardiac in Pregnancy." Dr. Hood, an Oklahoma graduate in 1930, is President of the Oklahoma County Medical Society, a member of the OSMA, and a Fellow of the A. M. A.

Werner Walter Mall, M.D., of Ponca City, limits his practice to EENT. He is the author of "Staphylococcus Ulcer of the Cornea: Report of a Case" which is published in this issue of the Journal. Born in 1905, Dr. Mall was graduated from the University of Nebraska College of Medicine in 1932 and received his Oklahoma license in 1934. He is a member of the Kay-Noble County Society and the OSMA and is a fellow of the A. M. A.

The Clinical Pathologic Conference reported in this issue was conducted by Dr. Howard C. Hopps, Chairman of the Department of Pathology at the School of Medicine, and Dr. Paul Merton Vickers, Instructor of Rectal Surgery.

Dr. Hopps was previously associated with the Department of Pathology at the University of Chicago, after being graduated from the University of Oklahoma in 1937.

Dr. Vickers, previously located in Houston, Texas, was graduated from the University of Minnesota in 1937. In addition to his position on the teaching staff, he is engaged in private practice of proctology with offices in the Medical Arts Building in Oklahoma City.

CLINICAL PATHOLOGIC CONFERENCE

University of Oklahoma School of Medicine

Presented by the Departments of Pathology and Surgery

HOWARD C. HOPPS, M.D. AND PAUL M. VICKERS, M.D.

OKLAHOMA CITY, OKLAHOMA

DR. HOPPS: The case for discussion today is interesting from several viewpoints, one of which concerns the diagnosis. You have studied the protocol and realize that the hospital stay of this patient was so limited that there was not an opportunity to determine many of those facts which would have been valuable in arriving at the proper diagnosis. Dr. Vickers will analyze the clinical data.

PROTOCOL

Patient: F. L. H., white male, age 71; admitted October 29, 1945; died October 31, 1945.

Chief Complaint: Bleeding from rectum, pedal edema, dyspnea and orthopnea, substernal oppression.

Present Illness: For the past year this patient had noticed nocturnal dyspnea, orthopnea, and pedal edema. He had passed blood from the rectum occasionally. For five years he had been chronically constipated and this had been more pronounced in the last six months. Approximately 38 hours before admission he began to pass blood per rectum; at first black, this later became red. The hemorrhage was profuse and persisted until his entrance to this hospital. The patient had lost weight for the last two years, amount not known.

Past and Family History: Not obtained.

Physical Examination: On examination the patient was very pale, dyspneic, and acutely ill. The skin was cold, and he was perspiring. The right pupil was larger than the left. He was partially edentulous. The heart-beat was irregular and a loud blowing systolic murmur was heard at the aortic area. The blood pressure was 100/70, the pulse 100. There was a firm, irregular mass in the left lower quadrant with some local tenderness. There was moderate pedal edema.

Laboratory Data: On admission, October 29, 1945, the urine was yellow, cloudy, and acid. The specific gravity was 1.016, there was a trace of albumin, no glucose, and 30-40 white blood cells per high power field. On October 30, 1945, the hemoglobin was 3.75 Gm., the red blood cell count 1,750,000, and the white blood cell count 20,100 with 92 per cent neutrophils and 8 per cent lymphocytes.

Clinical Course: The patient was given morphine sulfate, grains ⅙ in the emergency room and an infusion of 5 per cent glucose was started immediately. After he had received 1000 cc., 500 cc. of whole blood was given. Oxygen was given by nasal catheter. The patient appeared much improved subjectively and objectively; however, his blood pressure persisted at 90/60. His pulse ranged around 80/min. The following day the patient felt much better and ate well until the evening when he went into a "worse condition again" and responded poorly. Another 500 cc. blood transfusion was given. His temperature, subnormal on admission, rose to 103° (R). On the third hospital day he developed a loud friction rub and rales over the right chest. He refused to leave the nasal oxygen tube in place. Penicillin, 40,000 units, was given I.M. Respiration became progressively slower, and the patient lost consciousness. He expired at 9:50 p.m., 52 hours after admission.

CLINICAL DIAGNOSIS

DR. VICKERS: This elderly white man was acutely ill. He complained of massive hemorrhage from the rectum. You will note also that he suffered from marked anemia; hemoglobin was 3.75 Gm. Initially, the blood passed per rectum was of black color, later it became bright red. This matter of color is of great significance as you know. The

most common cause of bright red blood at this site is hemorrhoids. This patient, however, had a mass in the left lower quadrant which was tender and this directs our attention to some intra-abdominal lesion there. Rarely do individuals who have lesions of the ascending colon pass much blood. Gross hemorrhage, per rectum, usually originates from a lesion distal to the splenic flexure and, most often, in this age group it results from *carcinoma of the sigmoid or rectum.* Due to the short period of hospitalization and the patient's general condition, physical examination and laboratory studies were, of necessity, incomplete. One examination that might have been done and which would have been very helpful is a sigmoidoscopic visualization of the colon. Probably this would have been done had he been in the hospital longer. Actually there are very few contraindications to this procedure and even though this patient was acutely ill and suffering from recent massive hemorrhage, one would expect little untoward reaction from sigmoidoscopy, if properly done. This patient complained of constipation rather than diarrhea and that is helpful in localizing the lesion. As you know, carcinoma of the large intestine may cause alternating diarrhea and constipation, or either alone. The history of chronic and progressive constipation would tend to localize this lesion in the left colon. Lesions in the rectum or near the anal opening usually provoke tenesmus. In such a condition the patient will have frequent urges to defecate but will pass only a little mucus. Usually this is interpreted by the patient as constipation although an occasional individual will regard this as diarrhea simply on the basis of frequency. We have no story of this sort here so we must assume that the primary lesion is above the rectum or anorectal juncture. If the lesion were in the right colon the classical signs and symptoms would include secondary anemia as a prominent manifestation. There is usually also "dyspepsia." Because the cecum is relatively large and because neoplastic lesions usually occur on the lateral wall, obstruction seldom results. There may be increased frequency of movements and these patients often complain of diarrhea.

In elaborating a more complete differential diagnosis, *diverticulitis* should also be considered. This is most common in the descending colon. There may be peridiverticulitis and, occasionally, bleeding. Severe massive hemorrhage, as a result of diverticulitis, is rare. *Polyposis* may cause massive bleeding from the bowel. This usually occurs in a younger age group however. Polyposis may be complicated by carcinomatous change, but again this usually occurs at an earlier age. *Amoebiasis* may produce hemorrhage from the rectum. If one of these ulcers perforates it may cause fever, an abdominal mass, etc. *Tuberculosis* of the colon occasionally causes bleeding. The tuberculous lesions usually occur in the cecum or ascending colon however. *Bacillary dysentery* may rarely cause discharge of blood from the rectum. Diarrhea is usually the outstanding symptom. Getting back to the case at hand, let us direct our attention again to the mass which presented itself in the left lower quadrant. When we consider the general condition of this patient, the various physical findings, the story of rectal hemorrhage, the anemia, etc., it appears that this abdominal mass is most likely an effect of impaction, pericolitis or sigmoiditis. We know that carcinoma of the descending colon, sigmoid or rectum rarely presents as an easily palpable abdominal mass. Therefore, if a mass is present under these conditions, that mass is usually inflammatory in nature even though associated with and caused, indirectly, by a neoplasm. In other words, it signifies perforation of the bowel with secondary inflammatory reaction. The site where perforation occurs most often from carcinoma is the sigmoid colon. Considering the chronicity of this patient's course, the history of progressive constipation, the sudden massive hemorrhage, and the mass in the left lower quadrant, I believe that this man had a *slowly perforating carcinoma of the sigmoid colon.* Not only would this account for the abdominal mass, but would logically explain the marked bleeding. The patient's fever rose after he was admitted and I assume that that was due to a terminal pneumonia. I cannot say what the immediate cause of death was.

CLINICAL DISCUSSION

DR. HOPPS: You said that this was possibly a perforating carcinoma of the sigmoid — does that imply peritonitis?

DR. VICKERS: The terminal fever could be accounted for on this basis but is not necessarily due to that. The ordinary carcinoma of the sigmoid or colon is not readily palpable and when a mass does present, it makes us think of a pericolitis, i.e., localized peritonitis. Ordinarily perforation occurs very slowly and causes local inflammatory reaction rath-

er than diffuse peritonitis. There are sometimes adhesions of the surrounding organs. Local infection, in relation to a carcinoma of the sigmoid, rarely results in this much fever. The temperature is usually 101° or sometimes 102° F.

QUESTION: What percentage of patients with carcinoma of the sigmoid colon might be expected to have a terminal diffuse peritonitis?

DR. VICKERS: Very few.

QUESTION: What about metastases?

DR. VICKERS: The average carcinoma of the rectum is usually not seen by the surgeon until it has been there from eight to 12 months. Out of this average group the highest incidence of five-year cures is reported as about 50 per cent. Approximately 20-30 per cent of all lesions of the colon will present matastases by the time the diagnosis is made. I do not know whether this man had metastases or not. In the terminal cases that I have seen, I have not been impressed by marked effects from the metastatic lesions. The cause of death is usually more closely related to the primary lesion itself.

QUESTION: Is rather massive bleeding from the intestinal tract a contraindication to sigmoidoscopy?

DR. VICKERS: There are no contraindications to sigmoidoscopy if it is carefully done. Patients are prone to have hemorrhage after radium therapy. Often, in this circumstance, a sigmoidoscopic examination must be done in order to find the point of bleeding and cause its cessation. Many times barium enemas are contraindicated and, especially here, even in acutely ill patients, sigmoidoscopy is the examination of choice. In cases of diverticulitis, for example, if barium is given by rectum, often the barium is retained — then special treatment is necessary to prevent inspissation and impaction.

QUESTION: If the patient had been in better condition would he have been operated on regardless of his age?

DR. VICKERS: There is no inoperable case if the patient can withstand an anesthetic — regardless of age.

DR. EMERY: I want to second Dr. Vickers' statement in regard to barium enemas. It is better not to ask for this examination until it appears to be essential for making the diagnosis. We have refused several requests lately until after the cases had been sigmoidoscoped. Only shadows are seen by x-ray. All of our diagnoses are based upon variations in shades — black, gray, etc. If the lesion is above the range of the sigmoidoscope one is certainly justified in asking for barium enema. No x-ray studies were done in this case. I do not believe that any information would have been gained by barium enema studies that could not have been better and more safely learned from sigmoidoscopic examination.

QUESTION: How much pressure would you use in giving a barium enema?

DR. EMERY: Very little. We regulate the pressure and keep it very low. We do not try to force it through an obstruction.

ANATOMIC DIAGNOSIS

DR. HOPPS: I have become more and more impressed by the value of the written word in the study of medicine. By this statement, I seek to emphasize the importance of the medical history and the careful recording of the physical findings. Dr. Vickers, although he never saw this patient and although he received no more information than was given to you in mimeographed form, was quite correct in his diagnosis. As a matter of fact his diagnosis was much more complete than that of the men who actually saw and cared for this patient. This man did have a carcinoma of the sigmoid. The mass in the left lower quadrant, however, was the result of inflammatory tissue which was secondary to a penetrating and perforating carcinoma there. There was considerable fibrous tissue reaction of the surrounding tissue so that the mass in the abdominal cavity was not limited to the colon but was composed in a large measure of fibroplastic tissue and adherent indurated omentum. Although just about everything was drawn from the abstract that could be, the picture is not quite as simple as was presented. This man actually had five conditions, each one of which was significant in that it produced an important disease. Three of these conditions were not evident clinically. In addition to focal peritonitis this patient had *diffuse peritonitis* at the time of his death. As a matter of fact this was probably the precipitating cause of death. The usual septic response from this type of lesion was masked by (a) extensive bronchopneumonia, and (b) extreme debility. In the abdominal cavity we found 150 cc. of purulent fluid. Loops of intestine were matted together by easily torn adhesions. In the rectosigmoid area there was, as previously mentioned, much fibrous tissue and adherent omentum. There was a tiny perforation of the sigmoid colon, less than one mm. in diameter, and this was the

site from which the peritonitis arose. There was marked bronchopneumonia also and this was diagnosed by Dr. Vickers from the data presented to him. Thus, we have established the fact that this patient had a carcinoma of the sigmoid colon which had perforated, giving rise to local peritonitis and an inflammatory mass. Furthermore, the nature of this lesion explains the massive hemorrhages, the state of shock which this man exhibited, and the secondary anemia (see Figure 1). In addition, a generalized peritonitis and marked bronchopneumonia both acted as precipitating causes of death. The patient also had a septicemia or pyemia during his terminal illness. This resulted in septic infarcts of the lungs and, in turn, infarcts of the spleen and kidneys. Those infarcts in the lungs were in the process of suppuration so that the patient actually had several lung abscesses. The heart was involved by yet a different process which was independent of the others. The loud systolic murmur heard at the aortic valve was not hemic in origin. The disease responsible for this murmur was calcific aortic valvulitis. The cusps were thickened, nodular, and there were dense areas of calcium up to three mm. in diameter. These brought about a moderate degree of stenosis of the valve. In response to this aortic stenosis, the heart was almost twice the expected size, 550 Gm. The right ventricle of the heart was thickened two times, eight mm.; the left, one and one-half times, 18 mm. He was not in obvious clinical congestive failure, but again the debility and state of shock made precise evaluation impossible. We do have morphologic evidence of chronic passive congestion of the spleen, liver, and lungs, so that we know that this cardiac lesion was of significance.

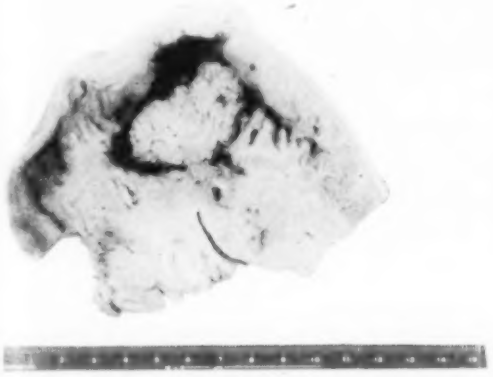

Figure 1
This is the primary neoplasm found in the sigmoid colon. Note the extent of obstruction by the fungating polypoid mass, also the extent of penetration and replacement of bowel wall. The fibrous tissue reaction to focal peritonitis is evident.

DISCUSSION

QUESTION: What was the source of hemorrhage?

DR. HOPPS: This neoplasm consisted of a fungating infected mass and there was penetration of the bowel wall. In the course of this penetration, the continuity of blood vessels was interrupted. We hardly expected to find the exact source of the hemorrhage and we did not do so. Remember that extensive bleeding had not occurred for the last two days of life.

DR. VICKERS: What about the irregular pupils?

DR. HOPPS: In older people, particularly after morphine, this is frequently observed. This man was given morphine when he first came into the hospital. Very frequently at necropsy we find variation in the size of the pupils that was not manifested during life.

DR. VICKERS: Why was he given morphine?

DR. HOPPS: On the basis of shock, I imagine. Do you not give your patients morphine when they are in shock?

DR. VICKERS: If they are not in pain, we do not.

QUESTION: Which was the oldest, the pneumonia or the peritonitis?

DR. HOPPS: About the same age; if you are trying to determine the basis for fever, I believe that was due to the peritonitis.

QUESTION: Were metastases present?

DR. HOPPS: Although the neoplasm had been present for some time, the metastases were limited to the regional (mesenteric) lymph nodes. The liver is usually the site of distant metastasis. As Dr. Vickers pointed out, distant metastases usually occur relatively late, hence the high incidence of curability. As to the frequency of this lesion, of all neoplasms in the large intestine, approximately ⅓ occur in the rectum, ⅓ in the rectosigmoid, and the remainder are distributed throughout the rest of the colon.

DR. WOLFF: What did you find in the arch of the aorta?

DR. HOPPS: There was atherosclerosis. If you are thinking of mural thrombosis of the aorta as a possible explanation for the splenic and renal infarcts, no evidence of thrombosis was found. As a matter of fact, we consider atherosclerosis of the *aorta* a rather rare cause of embolic phenomena.

President's Page

Another year has come and gone, bringing with it pleasure and happiness as well as sorrow. In closing up the year's work and activities I am not unmindful of the whole-hearted cooperation of the membership, all committees, and the personnel of the Association Office.

It is impossible to single out the many individual members who have rendered valiant service to the Association this year, but to each of them I extend my sincerest thanks.

The Committees have all been active and have done their work well and deserve the highest praise and thanks of the entire membership. They have been diligent. Please accept my thanks for a duty well and cheerfully done.

It has been a pleasure to work with the Council, and the earnest, thoughtful, and conscientious work done by them is reflected in the condition of the Association and its present position among the Associations in the United States.

The record has been made; time alone will determine its value.

L. C. Guyer Kendall

President.

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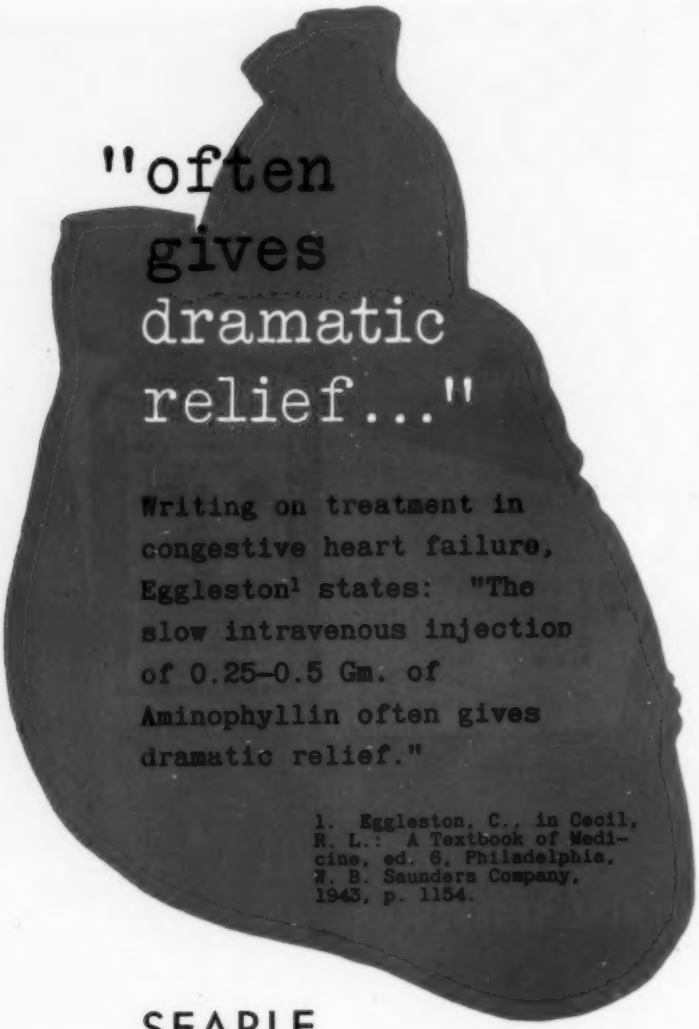

"often gives dramatic relief..."

Writing on treatment in congestive heart failure, Eggleston[1] states: "The slow intravenous injection of 0.25–0.5 Gm. of Aminophyllin often gives dramatic relief."

1. Eggleston, C., in Cecil, R. L.: A Textbook of Medicine, ed. 6, Philadelphia, W. B. Saunders Company, 1943, p. 1154.

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SEARLE
RESEARCH IN THE SERVICE OF MEDICINE

Special Article

Fifty Historic Years

This is not a biography but a brief account of a living force running continuously and consecutively through the history of medicine in Oklahoma since the year 1901. At the Oklahoma Club on the evening of March 27, 1947, Dr. William Ward Rucks' associates at the Oklahoma City Clinic gave a dinner to felicitate him upon the successful completion of fifty years in the practice of medicine since his graduation from the University of Tennessee Medical Department March 27, 1897. For a short time after his graduation Dr. Rucks was associated with one of his professors in a private sanatarium for nervous and mental diseases, after which he became assistant physician in the Central Tennessee Hospital for the Insane. In the spring of 1901 he left this assignment to enter the general practice of medicine in Guthrie, Oklahoma.

In 1905, when Sir Almoth Wright developed bacterial vaccines and advocated their administration under the exacting guidance of the opsonic index, Dr. Rucks took a course in the production, technique, standardization, and administration of bacterial vaccines under Dr. William Litterer, who was a pupil of Sir Almoth Wright. This was before vaccines were on the market. After the day's clinical load had been lifted, a good part of the night was devoted to opsonins. This was Dr. Rucks' way of making sure that the morning sun might shine on modern medicine in Oklahoma.

In 1908 he was commissioned by Governor Haskell to help organize the hospital for the insane at Fort Supply. When this was accomplished, he returned to Guthrie where he continued in general practice until he entered the Army in 1917. His full term of service was in the Base Hospital at Fort Sam Houston. After having served as Chief of the Medical Service, he retired with the rank of major. He then came to Oklahoma City, where in association with Dr. A. L. Blesh he acquired the then small Wesley Hospital owned by Dr. Camp. With this hospital as a nucleus, he and Dr. Blesh established the Oklahoma City Clinic. The development of Wesley under this management has been phenomenal. When the wing now under construction is completed, the bed capacity will be 200. The hospital and the well-established clinic have evolved from the initial efforts of Drs. Rucks and Blesh. The spirit of the clinic and the hospital service has consistently reflected the personality of Dr. Rucks.

William Ward Rucks, M.D.

It may be said that the climax of this crescendo service career was reached in the record of his phenomenal service as Chairman of Procurement and Assignment for Oklahoma from August, 1942, to the close of the war. The constructive movements initiated and supported by Dr. Rucks' industry, knowledge, and personality have set in motion forces which will perpetuate his name in the history of Oklahoma.

ASSOCIATION ACTIVITIES

NEW MEMBERS

The following physicians have become associated with their county societies and the State Association in the first four months of 1947:

Felix M. Adams, Jr., Nowata
George M. Adams, Tulsa
Thomas M. Berry, Cyril
George R. Booth, Jr., Wilburton
Charles E. Brighton, Tulsa
Turner Bynum, Oklahoma City
J. N. Byrd, Jr., Pauls Valley
H. Gray Carter, Tulsa
*Robert E. Casey, Oklahoma City
Stanley G. Childers, Muskogee
Betty Conrad, Stillwater
P. J. Cunningham, Oklahoma City
John C. Dovell, Prague
*Safety R. First, Checotah
A. L. Frew, Jr., Oklahoma City
William T. Gill, Ada
Rufus C. Goodwin, Oklahoma City
Minor E. Gordon, Claremore
Jerry B. Gwin, Ada
Ralph B. Jones, Nicoma Park
Oliver J. Hagg, Waurika
W. B. Harned, Walters
I. J. Haugen, Ada
Eugene M. Henry, Muskogee
Perry E. Hewitt, Muskogee
Jack Van Doren Hough, Oklahoma City
William E. Hubbard, Frederick
J. V. Hyer, Garber
Harry McGee, Ada
J. B. Golrick, Erick
Dalton B. McInnis, Okeene
M. Wilson Mahone, Hobart
John D. Moore, Hugo
James L. Nicholson, Norman
Emil E. Palik, Tulsa
Reynold Patzer, Oklahoma City
Ralph S. Phelan, Hobart
Perry G. Pratt, Ponca City
H. M. Prentiss, Roosevelt
Andrew Ritan, Tahlequah
Evelyn Rude, Norman
Harmon U. Sanders, Muskogee
Paul O. Shackelford, Tulsa
Jackson A. Smith, Cheyenne
Joseph J. Smith, Shattuck
Wendell L. Smith, Tulsa
Robert S. Srigley, Ardmore
Harry A. Stalker, Pond Creek
George K. Stephens, Ada
Paul T. Strong, Tulsa
William F. Thomas, Jr., Tulsa
William B. Thompson, Walters
Henry C. Trzaska, Hennessey
A. W. Truman, Ardmore
R. M. Wadsworth, Tulsa
Ethel M. Walker, Ardmore
Rhonald A. Whiteneck, Waynoka
Donald J. Wilson, Pauls Valley
Henry D. Wolfe, Hugo
Reed Wolfe, Hugo
*Armed Forces.

OKLAHOMA PHYSICIANS RALLY TO AID STRICKEN WOODWARD

The story of the Woodward disaster when fully told reveals a remarkable job of aid to survivors of the disaster by Oklahoma citizens, including the medical profession of the State. Eyewitnesses to the devastation describe it as far worse than the newspaper accounts could ever represent. In Oklahoma City, first news of the catastrophe reached Dick Graham, Executive Secretary of the State Medical Association, at 12:15 A. M. the night of the tornado. He immediately began to contact the doctors and nurses who made up the first rescue party by air to the stricken area. All these persons assembled at the headquarters of the Highway Patrol in Oklahoma City, and the Highway Patrol took them out to Tinker Field where an Army C-54 plane was waiting to carry them to Woodward.

Eleven private physicians from Oklahoma City, plus four Army physicians, and nine nurses and technicians flew to the disaster scene through the cooperation of the Tinker Field Army Air Forces facilities. The C-54 carried, in addition to this personnel, medical supplies secured from the State Health Department, the Red Cross, and the Station Hospital at Tinker Field. At 1:30 A. M. the Highway Patrol left the rescue party at Tinker Field, and the plane departed at 2:45 A. M. It landed at 3:45 A. M., after an hour's flight over what would normally be a three and one-half hours' drive, at an auxiliary air field at Gage. The plane was met by citizens from both Shattuck and Woodward, who reported that the Newman Hospital at Shattuck and the Memorial Hospital at Woodward had many casualties. The doctors, nurses, and technicians were divided between these two towns as were the medical supplies, and they were rushed into the hospitals to give medical attention to the injured. These doctors remained on duty all night and until late the following day, by which time additional medical assistance had arrived.

In the interim, senior medical school students, interns, and residents had driven into the area from Oklahoma City and were rendering valuable assistance. Doctors, nurses, and technicians began arriving in the devastated area early the next morning from as far away as Wichita, Kansas, and Amarillo, Texas. Doctors came from many surrounding areas, including Ponca City, Enid, Elk City, Sayre, Clinton, Alva, Tulsa, and many others, and so many persons came that it is impossible to say who all the individuals were or the towns they represented.

Immediately arrangements were made with Tinker Field to evacuate the more seriously inured by air to Oklahoma City, where the entire staffs of the Oklahoma City hospitals had been alerted to take care of them. Most of the injured evacuated by air fell into the group of either orthopedic or neurosurgical cases. Arrangements were made with Santa Fe to evacuate by train patients to the hospital at Alva. In the meantime, in addition to the hospital at Shattuck which took care of a great many of the injured in Higgins, White Deer and Glazier, Texas, the more seriously injured were transported to the Community Hospital at Moreland, and a temporary hospital was set up in the Baker Hotel in Woodward. Emergency care and operative procedures were almost impossible to carry on in Woodward due to the fact that there was no fuel nor water until the

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following morning and even emergency power then made available was not of sufficient voltage to operate x-ray.

The Public Health Department at once moved into the area to supervise and protect the people from epidemics occasioned by breaking of water mains and sewage. As late as the third day it was still necessary to take medical care into the area, as some of the injured were too serious even to be evacuated. Seventy-four persons including children were evacuated to University Hospital in Oklahoma with only four fatalities and none dead upon arrival. It was extremely fortunate that the area had three excellent hospitals, Shattuck, Woodward, and Mooreland, and that none of them were damaged. Fortunately, too, none of the local physicians was injured, and all gave heroically of their skill and strength in aiding the survivors.

It was necessary to clear out as rapidly as possible the hospitals in the stricken area and diffuse the long-stay cases so those less injured could be cared for as quickly as possible, and the normal services of the hospitals could be resumed. For example, there were babies waiting to be born. Hundreds of people in Woodward had injuries which were not emergencies but which ultimately required care. As late as 24 hours after the catastrophe people were reporting for aid with minor fractures, exhaustion, hysteria — people who had borne up during the early part of the disaster but could no longer go unattended. The injured were all terribly dirty — pebbles and splinters were driven into their skin and bodies and they suffered multiple lacerations and bruises which had to be cleansed and treated.

This report cannot give due credit to every one who lent assistance, but mention should be made of the men and women who operated the ambulances. In many respects problems of medical supplies were more acute than the need for trained personnel. Blood plasma, whole blood, penicillin, sulfa, narcotics, antitoxins, and anesthetics (ether and sodium pentathol) were scarce and although available elsewhere in quantities, the problem was getting them quickly where needed. There were long lines of people waiting to give blood if needed, but there was not a sufficient supply of equipment necessary to give transfusions.

The Woodward situation showed the value of rapid, properly supervised air evacuation. The personnel at Tinker Field should be most highly complimented on their part in utilizing Army equipment and ambulances and bringing in supplies that had been provided by the Red Cross and others. They also transported doctors and nurses. The Highway Patrol also should receive commendation for their part in the tasks of supply and evacuation. In the evacuation the Army principle of tagging the wounded was used, and all people evacuated from immediate hospitals left with a tag stating what attention they had been given and what diagnosis had been made.

One difficulty encountered in a situation of this sort was the lack of means of communications with the outside areas, where help was waiting if the need were known. Relief organizers in Oklahoma City were unable to contact the leaders of the rescue work in Woodward to learn the true conditions there and what was needed in the way of personnel and supplies. The catastrophe showed the definite need for establishing state-wide planning for the handling of disasters, inasmuch as there was very little coordination of all available facilities.

Although it is impossible to give the names of all who assisted in the care of the injured, the following list of those flying to Woodward from Oklahoma City is available: Physicians—Austin Bell, A. M. Young, James Asher, L. Stanley Sell, Gerald Bednar, Charles M. Bielstein, Edward W. Ferris, Fred W. Taylor, and Warren Poole. Nurses—Nadine Peck, Wanda Cassilbery, Corinne Baker, and two Red Cross nurses.

The following physicians from University Hospital made the trip to Woodward to help in the care of the wounded: A. M. Brixey, A. C. Lisle, C. S. Smith, Charles W. Freeman, Hal Burnett, Harrell C. Dodson, and F. E. Johnson.

NATIONAL HEALTH ACT OF 1947

The National Health Act of 1947, which has been introduced by Senators Taft, Smith, Ball, and Donnell, is apparently one phase of the Republican Party's program of health legislation. This bill is a rewrite of a bill of a similar nature introduced in the pregious Congress and is considered as social legislation to take the place of the Wagner-Murray-Dingell Bill with the objectionable compulsory features of the latter legislation removed.

The general public and those professions interested in the health of the people are genuinely interested in all legislation particularly on a Federal level that would interject the Federal government into this large field of our public life hitherto not invaded. Careful consideration must be given by medicine as to the extent the National Health Act of 1947 will change the present practice of medicine and whether or not its provisions are designed to raise the standard of health of the American people.

It has been reported that the American Medical Association's 10-Point Health Program has been considered in the writing of this bill, but so long as bills introduced in Congress oftentimes are amended from their original text, it is believed that endorsement of this particular legislation must be carefully studied before given.

In order that the profession may have a brief analysis of the purposes of the act, a short resume is given. A more detailed analysis of the bill will be sent to each member of the Association by direct mail.

Condensed Summary of Senate Bill 545 "National Health Bill"

Senate Bill 545 establishes a National Health Agency. It provides for a National Health Administrator who must be a doctor of medicine and will receive $15,000 annually for his services. The Public Health Service, St. Elizabeth's Hospital, the Food and Drug Administration, and the Division of Health Studies and the Children's Bureau now in the Social Security Administration are to be established within the National Health Agency. Other departments relating to health are to be studied and considered for transfer to the Agency.

The National Health Agency is proposed to coordinate all health functions of the Federal Government into that agency. The Agency is to expand the activities of the Public Health Service and to promote and encourage medical and dental research through the National Institute of Health and by direct grants-in-aid to the States. *Senate Bill 545 appropriates two hundred million dollars annually for grants-in-aid to states or local agencies as a supplement to local funds for the provision of medical, hospital, and dental services to all people unable to pay.* Physical examinations for all children in elementary and secondary schools in each state are to be provided. Specific funds are to be appropriated for the development of more effective mehtods for the prevention and control of cancer. Specific appropriations for examination and care for indigent dental patients are to be made as well as the establishment of a National Institute of Dental Research as a division of the National Institute of Health.

World of new hope in petit mal

One important fact stands out in the rapidly expanding clinical record of Tridione: Thousands of children formerly handicapped in school and play by petit mal, myoclonic or akinetic seizures are finding substantial relief through treatment with Tridione. In one test, Tridione was given to 150 patients who had not received material benefit from other drugs.[11] With Tridione, 33% became seizure free; 30% had a reduction of more than three-fourths of their seizures; 21% were moderately improved; 13% were unchanged, and only 3% became worse. In some cases, the seizures, once stopped, did not return when medication was discontinued. Tridione also has been shown to be beneficial in the control of certain psychomotor epileptic seizures when used in conjunction with other antiepileptic drugs.[12] Wish more information? Just drop a line to ABBOTT LABORATORIES, North Chicago, Illinois.

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HOSPITAL SERVICE IN OKLAHOMA

The Council on Medical Education and Hospitals of the A. M. A. has released its annual report on hospital service in the United States, appearing in the April 12 issue of the Journal of the A. M. A. The report, which is based on census returns from 98 per cent of all hospitals registered by the A. M. A., gives the following interesting figures on the quantity and types of service rendered by Oklahoma hospitals in 1946. Only A. M. A. registered hospitals are listed — that is, those hospitals given basic recognition by the A. M. A. and concerning which the A. M. A. has no evidence of irregular or unsafe practices.

Hospital Facilities by Types of Control

Registered hospitals in Oklahoma total 126. Of these, 44 are government controlled, 21 are controlled by Church and other nonprofit associations, and 61 are proprietary controlled or operated for profit. The following figures give a comparison of hospital facilities available under each type hospital.

	Total Hospitals	Beds	Bassinets	Patients Admitted	Average Census
A. Government hospitals	44	13,469	288	63,215	12,040
B. Nonprofit	21	1,964	395	59,826	1,432
C. Proprietary	61	1,853	435	64,163	1,216

These three main types of control may be broken down further, as follows:

Government Hospitals

	Total Hospitals	Beds	Bassinets	Patients Admitted	Average Census
Federal	17	1,894	111	25,260	1,040
State	16	11,059	47	21,421	10,694
County	2	119	20	3,026	67
City	9	397	110	13,508	239

Nonprofit Organizations

	Total Hospitals	Beds	Bassinets	Patients Admitted	Average Census
Church Related	10	1,089	258	36,037	885
Nonprofit Assns.	11	875	137	23,789	547

Proprietary

	Total Hospitals	Beds	Bassinets	Patients Admitted	Average Census
Individual & Partnership	51	1,408	358	48,556	874
Corporations (Profit unrestricted)	10	445	77	15,607	342

Hospital Facilities by Type of Service

Of the 126 registered hospitals in Oklahoma, 102 are general hospitals, eight are devoted to nervous and mental cases, five to tuberculosis, two are maternity hospitals, two are exclusively orthopedic hospitals, two isolation hospitals, and five are hospital departments of institutions. Oklahoma has no registered hospitals caring exclusively for (1) industrial cases, (2) eye, ear, nose and throat, (3) children, or (4) convalescent or rest cases. The following chart outlines the facilities available in each category of service rendered:

Oklahoma Hospitals
Facilities by Type of Service Rendered

	Hospitals	Beds	Bassinets	Patients Admitted	Average Census
General	102	6,443	1,065	170,009	4,23[illegible]
Nervous & Mental	8	9,180	11	4,133	9,59[illegible]
Tuberculosis	5	797	....	943	46[illegible]
Maternity	2	47	40	441	2[illegible]
Orthopedic	2	78	....	1,358	6[illegible]
Isolation	2	530	2	5,011	27[illegible]
Hospital Depts. of Institutions	5	211	....	5,309	50
TOTALS	126	17,286	1,118	187,204	14,68[illegible]

Comparison With 1945 Figures

A comparison of the current A. M. A. report with the figures published a year ago based on the hospital census for the year 1945 reveals a decrease in hospital facilities in Oklahoma, which is in line with a marked decrease in total hospital service in the United States, according to the A. M. A. charts. This decrease in number of hospital beds, admissions, average census, etc., throughout the nation is no doubt due to the reduction in military hospitals in the last year and the readjustment from war to peace.

The following chart shows this decrease as pertains to Oklahoma:

	Total Hospitals	Beds	Bassinets	Patients Admitted	Average Census
1945	135	26,249	1,141	222,079	18,56[illegible]
1946	126	17,286	1,118	187,204	14,68[illegible]

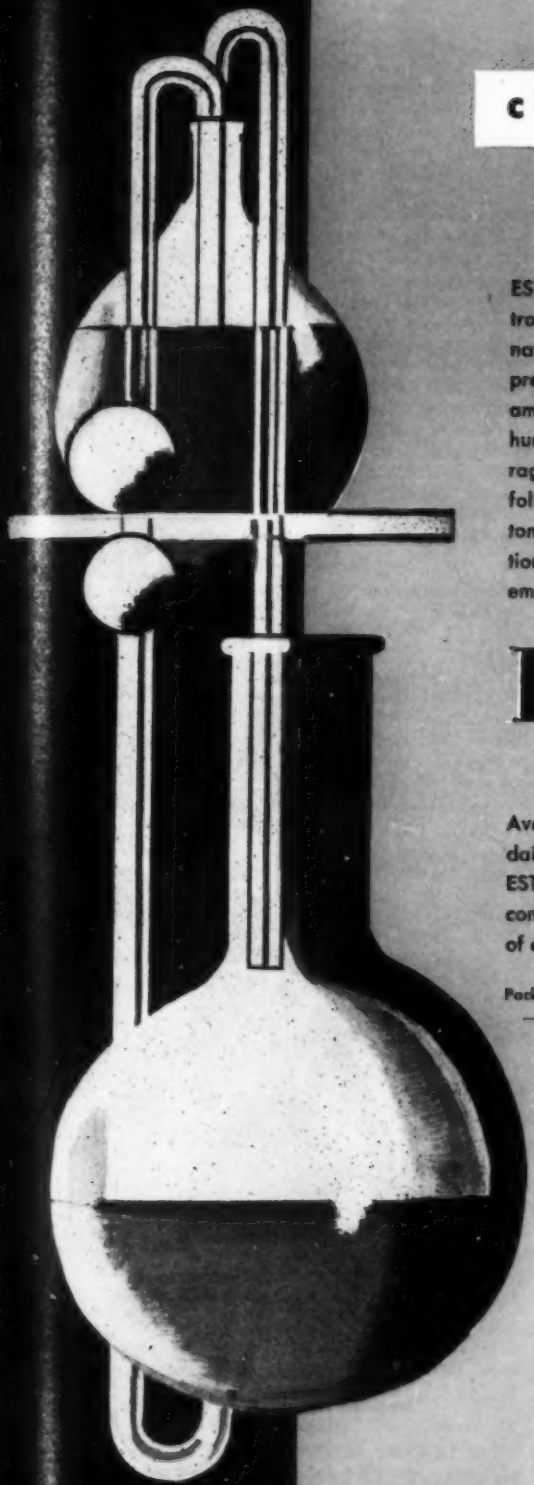
Hospital Births

In contrast to the decrease in hospital facilities in the past year, Oklahoma hospital births have increased from 26,759 in 1945 to 27,522 in 1946. These figures also are in line with the national trend, for, as the J. A. M. A. points out, for the first time in history hospital births in the United States reached and passed the two million mark. The figures for the Nation in 1945 were 1,969,667; in 1946, they reached 2,136,373.

Internships and Residencies

The Report shows that in 1946 Oklahoma had five civilian hospitals approved by the Council on Medical Education and Hospitals for internships; namely, St. Anthony Hospital, Oklahoma City; University Hospitals, Oklahoma City; Wesley Hospital, Oklahoma City; Hillcrest Memorial Hospital, Tulsa; and St. John's Hospital, Tulsa. These five hospitals offered 55 internships in 1946, with a total number of 38 interns.

There were five hospitals approved by the Council for residencies and fellowships: namely, Central Oklahoma State Hospital, Norman; Bone and Joint Hospital—McBride Clinic, Oklahoma City; St. Anthony Hospital, Oklahoma City; University Hospitals, Oklahoma City; and Hillcrest Memorial Hospital, Tulsa.



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1. Bickers, W.: Am. J. Obst. & Gynec. 51:100, 1946.

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(*Formerly Albumintest*)

Tablet, *no heating* method for quick qualitative detection of albumin. Bottles of 36 and 100.

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Tablet, *no heating* method of detection of urine-sugar.

Laboratory Outfit (No. 2108).

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Clinitest Reagent Tablets (No. 2101) 12x 100's for laboratory and hospital use.

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Nursing Personnel and Schools of Nursing Education

The Report states that 12 accredited schools of nursing enrolled 893 student nurses in Oklahoma during 194[illegible]. Administrative nursing personnel numbered 120, with [illegible] full-time instructors, 196 supervisors and assistant supervisors, 149 head nurses and assistant head nurses, 5[illegible] general duty full-time nurses, 53 general duty part-time nurses, and 58 nurses not classified, making a total of 1,128 graduate nurses. In addition there were 203 private duty nurses, 1,204 practical nurses and attendants, [illegible] volunteer nurses aides, 244 orderlies, and 224 ward maids.

These figures also reveal a decrease from the survey of a year ago, when the A. M. A. reported 1,080 student nurses training in 13 accredited schools of nursing. The report for 1945 revealed 117 administrative nursing personnel, 28 full-time instructors, 215 supervisors and assistant supervisors, 177 head nurses and assistant head nurses, 681 full-time general duty nurses, 39 part-time general duty nurses, 42 nurses not classified, making a total of 1,299 graduate nurses. There were in addition 144 private duty nurses, 1,257 practical nurses and attendants, 274 volunteer nurses' aides, 553 orderlies, and 394 ward maids.

Technical Personnel

Full-time technical personnel employed by Oklahoma hospitals in 1946 numbered as follows: medical technologists, 133; x-ray technicians, 89; dietitians, 80; physical therapists, 20; pharmacists, 27; medical record librarians, 56; occupational therapists, 14; nurse anesthetists, 37; and clinical photographers, four. Part-time employees numbered: medical technologists, 42; x-ray technicians, 38; dietitians, five; physical therapists, nine; pharmacists, three; medical record librarians, 19; occupational therapists, one; nurse anesthetists, 10; and clinical photographers, three.

Oklahoma has three schools for x-ray technicians approved by the Council on Medical Education and Hospitals: namely, St. Anthony Hospital, Oklahoma City, J. E. Heatley, M.D., radiologist in charge; University Hospitals, Oklahoma City, J. E. Heatley, M.D., radiologist in charge; St. John's Hospital, Tulsa, S. Pollack, M.D., radiologist in charge. Applicants are required to have finished high school, and are issued a certificate upon the completion of from 12 to 24 months' training. There is no tuition. Maximum enrollment is from three to four.

The following three schools are approved for training of medical technologists: (1) St. Anthony Hospital, Oklahoma City, affiliated with the University of Oklahoma Agricultural and Mechanical College; H. Jeter, M.D., Pathologist in Charge; maximum enrollment six. (2) University Hospitals, Oklahoma City, affiliated with the University of Oklahoma School of Medicine; B. Halpert, M.D., Pathologist in Charge, maximum enrollment six. (3) St. John's Hospital, Tulsa, affiliated with the University of Tulsa; E. E. Palik, M.D., Pathologist in Charge, maximum enrollment four.

Minimum college prerequisite accepted by University Hospitals and St. Anthony is a degree; St. John's Hospital will accept applicants with two years of college work. Tuition is free in all three schools.

Hospitals Approved by American College of Surgeons

The following Oklahoma hospitals, numbering 33 in all, were approved by the American College of Surgeons as meeting unconditionally its minimum requirements for general standardization:

Valley View Hospital, Ada
Hardy Sanitarium, Ardmore

Claremore Indian Hospital
Western Oklahoma State Hospital, Clinton
Western Oklahoma Tuberculosis Sanitorium, Clinton
Cheyenne and Arapaho Hospital, Concho
Masonic Hospital, Cushing
Federal Reformatory Hospital, El Reno
Enid General Hospital, Enid
St. Mary's Hospital, Enid
Station Hospital, Fort Sill
Kiowa Indian Hospital, Lawton
St. Mary's Hospital, McAlester
Oklahoma Baptist Hospital, Muskogee
Veterans Administration Hospital, Muskogee
Central Oklahoma State Hospital, Norman
Ellison Infirmary, Norman
Oklahoma Bone and Joint Hospital—McBride Clinic, Oklahoma City
Oklahoma City General Hospital
St. Anthony Hospital, Oklahoma City
University Hospitals, Oklahoma City
Wesley Hospital, Oklahoma City
Pawnee-Ponca Indian Hospital, Pawnee
Ponca City Hospital
A. C. H. Hospital, Shawnee
Shawnee Indian Sanatorium
Shawnee Municipal Hospital
Stillwater Municipal Hospital
Oklahoma State Veterans Hospital, Sulphur
Wm. W. Hastings Hospital, Tahlequah
Talihina Indian Hospital
Hillcrest Memorial Hospital, Tulsa
St. John's Hospital, Tulsa

JANE TODD CRAWFORD STUDENT LOAN FUND IN GYNECOLOGY

The Woman's Auxiliary to the Southern Medical Association has established a postgraduate scholarship or loan fund for young southern physicians wishing to pursue the study of gynecology. The applicant must be of good character, capable of absorbing adequate knowledge, and not over 32 years of age. The loan must be returned in small installments after completion of the study.

Any young physician desiring to take advantage of this opportunity to strengthen weak spots in his training or familiarize himself more fully with the detailed study of this subject is invited to inquire of Mrs. J. Ullman Reaves, 1862 Government Street, Mobile 18, Alabama.

GASTROENTEROLOGICAL GROUP TO MEET

The National Gastroenterological Association will hold its 12th Annual Convention and Scientific Sessions at the Hotel Chelsea in Atlantic City, N. J., on June 4, 5, and 6, 1947, affording those interested in attending the Centennial Celebration of the A. M. A. a chance to be present at both meetings. Program and further details may be obtained from the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

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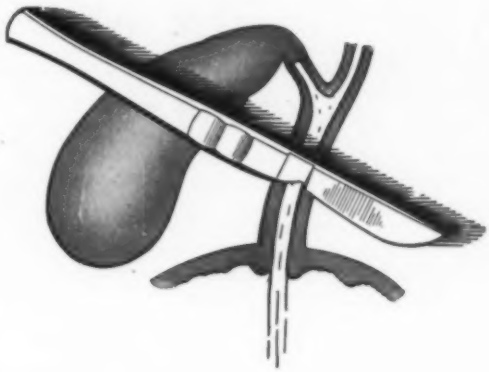
FOR SALE. Eight-room office, complete surgical equipment, medical supplies, and waiting room furniture for physician desiring to locate in Altus, Oklahoma. Key P, care of the Journal.



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Decholin (dehydrocholic acid) stimulates the production of thin bile by the liver cells, with a resultant cleansing action on the entire biliary tract.

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THE MEDICAL SCHOOL

CALENDAR — MAY, 1947

SURGICAL PATHOLOGIC CONFERENCES — Each Tuesday 12:00 Noon to 1:00 P.M.

MEDICAL CONFERENCES — Each Wednesday, 9:00 A. M. to 10:00 A.M.

CLINICAL PATHOLOGIC CONFERENCES — Each Thursday 12:00 Noon to 1:00 P.M.

TUMOR CLINICS — First and Third Tuesdays (May 6 and 20) 8:00 A.M. to 9:00 A.M.

UROLOGIC-PATHOLOGIC CONFERENCE — Second Tuesday (May 13) 8:00 A.M. to 9:00 A.M.

MONTHLY STAFF MEETING — Second Friday (May 9) Dinner, 6:15 P.M.

RADIOLOGIC CONFERENCE — Fourth Monday (May 26) 6:45 P.M. to 7:30 P.M.

Herbert Victor Lewis Sapper, Jr., (Med '44) was recently released from military service and is taking a postgraduate course in Pediatrics at Cincinnati, Ohio, at the Children's Hospital Research Foundation.

Dr. Pamela Prentice Parrish (Med '44), who interned at the University of Iowa Hospital, with her husband, Dr. R. G. Parrish, is now resident in medicine at Wesley Hospital, Chicago. Dr. R. G. Parrish (also Med '44) is now in the Army Medical Corps, serving as anesthetist with a Station Hospital at Nuremberg, Germany.

Dr. J. H. Abernethy (Med '39) was discharged from the Navy March 1, 1947, and has now entered private practice in Altus, Oklahoma.

The American Cancer Society and the National Research Council, Committee on Growth, have approved the research projects submitted by Dr. Howard C. Hopps and Dr. Mark R. Everett. They have recommended that the Oklahoma Division of the American Cancer Society grant funds for continued work on each of these independent projects. Dr. Hopps is centering his studies on anti-reticular cytotoxic serum (A.C.S.) and is particularly concerned with methods of preparation, titration, and therapeutic effects on cancer. Dr. Hopps is soon to visit several research laboratories in the East to consolidate his findings with those of other workers in this field.

The research work which the Department of Biochemistry has undertaken consists of an extensive investigation of the sugar-protein compounds in the body. The beginning phase of part of the work is to study such compounds in the blood of patients as compared with those in persons of normal health. Dr. M. R. Shetlar, from Ohio State University, is the research associate who is actively conducting the work under the direction of Dr. Mark R. Everett. Miss Janeal Villet (Utah State College) is assisting Dr. Shetlar.

The district meeting of the Society for Experimental Biology and Medicine for the tristate area of Oklahoma-Texas-Arkansas was held in Dallas, March 29. The Oklahoma delegation was the largest group present. Original papers were presented by Dr. Wiley McCollum, resident, University Hospital; Dr. Hunter, Physiology Department, University of Oklahoma; Dr. A. J. Stanley, Assistant Professor of Physiology, School of Medicine, University of Oklahoma; and Tom Gafford and Max Shideler, both students in the School of Medicine, University of Oklahoma. Dr. Arthur A. Hellbaum, Professor of Pharmacology, University of Oklahoma, was re-elected secretary of the society.

Dr. Carl Bunde, formerly with the School of Medicine, University of Oklahoma, and now Associate Professor of Physiology at Southwestern Medical School, conducted the Oklahoma group through Southwestern Medical School. It is housed temporarily in army barracks that are located adjacent to Parkland Hospital, Dallas, Texas. Dr. and Mrs. Bunde were hosts to a large portion of the Oklahoma delegation in their home Saturday evening.

OBITUARIES

Ovee John Colwick, M.D.
1880-1947

Ovee John Colwick, M.D., of Durant, died at his home April 2, 1947. He had been in poor health for the past year and recently retired from active practice and operation of the Durant Clinic. Born in Bosque County, Texas, August 8, 1880, he graduated from Southwestern Medical College, Dallas, in 1906, and moved to Durant in 1919 where he founded the Durant Hospital and Colwick Clinic with his brother, Dr. J. T. Colwick.

The Southwestern Medical Foundation in Dallas formally notified Mrs. Colwick that Dr. Bedford Shelmire, noted Dallas physician, has made a gift to the Foundation in memory of Dr. Colwick.

Dr. Colwick was a member of the Methodist Church and the Rotary Club. Survivors include his wife; two sons, Dr. J. C. Colwick of Palestine, Texas; and O. J. Colwick, Jr., of Sherman; a daughter, Mrs. Charles H. Davis, of Midland, Texas; four brothers, Dr. J. T. Colwick and N. M. Colwick of Durant, C. M. Colwick of Clifton, Texas, C. D. Colwick of Stephenville, Texas; and two sisters, Mrs. Fred Matson and Mrs. Arne Orbeck, of Clifton, Texas.

Jacob Meek Lanning, M.D.
1874-1947

Jacob Meek Lanning, M.D., formerly of Picher, died March 7, 1947, in his home in Miami, Oklahoma, following an illness of several months. He was born April 3, 1874, and received his medical education in Tennessee, being graduated in 1902. Dr. Lanning was licensed to practice medicine in Oklahoma in 1909, and came to the Ottawa County district in 1919. He specialized in surgery and practiced in Picher until he moved to Miami two years ago.

Dr. Lanning was a member of the Picher Lions Club and the Sacred Heart Catholic Church of Miami. Survivors are his wife, Mrs. Gladys Lanning, of Miami; two sons, Lenver C. Lanning and J. M. Lanning, Jr., and a daughter, Miss Lola Lanning, all of Chicago; and two grandchildren.

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chronic organic disease Many patients with chronic organic disease—arthritis or asthma, for example—sink into a persistent depression characterized by discouragement, or even despair. Unless effectively combated, this depression may handicap management of the basic disorder and intensify its symptoms.

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Have You Heard?

The Legion of Merit was recently awarded to *Col. Earl R. Denny*, M. C., A. U. S., of Tulsa. According to the citation, Col. Denny rendered exceptionally outstanding and meritorious service as chief of the medical service at Gardiner General Hospital, Chicago, from October, 1943, to February, 1946. His energetic and untiring efforts in the care and treatment of his patients, combined with his studies in the use of penicillin, resulted in the recovery of many extremely critical cases. His work in this field was a most laudable contribution to the efforts of the Medical Corps. Dr. Denny has also been awarded the Army Commendation Ribbon.

Dr. Kenneth Roberts (OU Med '39) has begun general practice in Stigler in association with Dr. J. C. Rumley. Dr. Roberts was recently released from service in the Navy.

Dr. A. L. Dougan of Carmen recently celebrated his 50th anniversary in the medical profession. It was March 27, 1897, that he began practice in Hatfield, Missouri, but he has been practicing in Oklahoma since 1904. His son *Dr. A. E. Dougan*, is the third generation doctor in the family and is now practicing in Oklahoma City.

The Post Office Department will issue a new three-cent stamp commemorating the 100th Anniversary of the founding of the American Medical Association. The stamp will go on sale June 9.

Following his discharge from the Army as a major in the Medical Corps, *Dr. Clifford Bassett* has returned to Cushing and reopened his offices in the Hughes Building.

Editorial Offices of the Journal have received a copy of the first issue of the Quarterly Bulletin of the Students of the University of Oklahoma School of Medicine. This first copy was mailed to every physician in the State. The ambitious publication, "for and by students," will offer an opportunity to students who have done research and prepared scientific papers to have them published. It will further "serve to inform the medical profession of the State of Oklahoma of the work being done by their successors and . . . bring about a closer contact between present and future alumni who serve the people of the State of Oklahoma."

Dr. Haskell Anderson has resigned as Director of Health for Custer, Washita, and Beckham counties to enter private practice in Watonga.

Dr. Joseph R. Karlick, recently released from the Army Medical Corps with the rank of major, is now associated with Dr. Lyman C. Veazey and Dr. J. Hobson Veazey in the practice of medicine in Ardmore.

Dr. R. C. McCreery, pioneer physician in Erick since 1909, recently became the owner of the Erick Hospital and presented the institution as a gift to the City of Erick, explaining that he wanted to "give something back" to the people of the community whom he has served and whose friendship he has enjoyed so long.

Dr. G. H. Stagner, formerly located in Erick, has recently established offices in Edmond.

Dr. H. A. Rosier, a graduate of Kansas University School of Medicine, will be associated with Dr. D. E. Collins as head surgeon at the Waurika Hospital.

The Thirty-Fourth Anniversary of the Okmulgee County Medical Society was observed April 12 by a dinner at which *Dr. S. B. Leslie* made the anniversary address, also honoring *Dr. W. C. Mitchener*, who has practiced in Okmulgee for the last 50 years. Dr. Mitchener, Okmulgee's second mayor, came to the city in 1897 from Mississippi and has been head of the Okmulgee Hospital Board since 1935.

There are 98 physicians licensed in Oklahoma who received their medical degrees during or before the year 1896. This seems a remarkable record of length of service for so large a number of Oklahoma physicians.

Dr. William A. Hyde, Durant, was recently notified that he has been elected a Fellow of the International College of Surgeons, founded in Geneva, Switzerland. Dr. Hyde is a partner in the Colwick Clinic and Durant Hospital.

The Darwin Clinic, Woodward, recently announced the addition to their staff of *Dr. Wm. P. Folck* of Junction City, Kansas. Dr. Folck is a graduate of the University of Kansas.

Dr. Joe M. Parker has recently become associated with the LeRoy Long Clinic, Medical Arts Building, Oklahoma City.

Governor Roy J. Turner has appointed *Dr. Ollie McBride*, Ada physician, to the new five-man Pardon and Parole Board.

On March 23, 1947, *Dr. J. L. Lehew* celebrated the fiftieth anniversary of his graduation from the University Medical College of Kansas City, Missouri. He has been a practicing physician in Pawnee nearly 48 years. Seventeen members of his graduating class, originally numbering 82, are still living.

More than 1300 of Bryan County's 1600 4-H and FFA boys and girls were guests of *Dr. W. K. Haynie* recently at a giant barbecue serving 900 pounds of prime beef from two prize-winning club calves. Rector Swearengin, Durant businessman, was co-host with Dr. Haynie in this enterprise designed to encourage and inspire the club boys and girls to even greater achievements in the future.

Dr. Oscar White, Oklahoma City, has been re-appointed to the Board of Regents of the University of Oklahoma by approval of Governor Roy J. Turner and confirmation of the State Senate.

Having delivered some 10 000 babies during 36 years of service to his patients as specialist in obstetrics, *Dr. E. P. Allen* of Oklahoma City recently announced his retirement from active practice. Dr. Allen, who received his medical education in Texas and was graduated in 1911, moved to Oklahoma in 1913 and has practiced here continuously since.

INTERESTED IN CIGARETTE ADVERTISING?

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* *Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154*
Laryngoscope, Jan. 1937, Vol. XLVII, No. 1, 58-60

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MEDICAL ABSTRACTS

SYMPATHETIC BLOCK OF STELLATE GANGLION: ITS APPLICATION IN ORTHOPEDIC CONDITIONS. Guy A. Caldwell, M.D., T. F. Roderick, Jr., M.D. and R. M. Rose, M.D., New Orleans. Jr. Bone & Joint Surgery. Vol. 28, No. 3, p. 513. July, 1946.

The authors point out the sympathetic block has become a most important branch of regional anesthesia. The sympathetic block increases the flow of blood to the upper extremities; increases pulsation, tissue oxygenation, and lymph flow. The authors feel that sympathetic block to the upper extremities has been neglected. The authors have employed this type of anesthesia for stellate ganglion with procaine hydrochloride in about 400 cases of painful, orthopedic lesions, in upper extremities. The following types of cases are listed and averages of the results obtained are mentioned in this article:

Acute subdeltoid bursitis — immediate relief in 83.3 per cent.

Periarthritis — Some 50 per cent had a good final result — 41 per cent a final fair result.

Myositis and fibrositis gave a 80 per cent good and a 20 per cent fair result.

Hypertrophic arthritis 50 per cent fair result.

Infectious arthritides 40 per cent good result; 60 per cent poor result.

Temporary relief was obtained in a high per cent of these cases, however.

Pain and swelling following fractures, such as fractures and dislocations — 100 per cent immediate relief of pain and the swelling.

Pain and swelling following trauma, such as contusions — This also gave 100 per cent relief of the pain.

Posttraumatic Causalgia and "Phantom" Pain after Amputation — the average result was pleasing with immediate relief from pain.

The authors describe, with illustrations, two techniques for the block procedures. They have tried all the approaches they could find described in the literature and have obtained the most consistently satisfactory results from modifications of the descending-infiltration technique of de Sousa Pereira. In an excellent paper, he describes the well-known anatomical features; and also points out the importance of the aponeurosis at the base of the neck, which acts as a pathway of diffusion for the anaesthetic solution from the level of the traverse process of the sixth cervical vertebra to the middle cervical and stellate ganglia. By utilizing this pathway, one can obtain consistently good blocks with needles of Wassermann or hypodermic length, instead of the usual and more lethal spinal length needle. These "short-needle" techniques have enabled the authors to do stellate blocks with greater safety, ease, and speed than is possible with any of the other methods.

In cases of recent acute lesions of the upper extremity, stellate block affords relief from pain which is almost universally gratifying. These patients submit to, or even seek out, consecutive blocks. That the pain is probably vasospastic in origin is suggested by the fact that complete relief follows one or more blocks at frequent intervals. Clinical substantiation is evidenced by the results obtained in acute inflammatory and posttraumatic conditions, in which the major etiological factor is known to be circulatory impairment.

In chronic cases, in which the lesions have been present until such anatomical changes as adhesions, erosion of cartilage, or abberrant calcification supervened, it is obvious that only transitory relief from pain can be obtained. Adjunctive physical therapy should be employed in such cases. The range of physical therapy tolerated is in direct proportion to the relief of pain afforded by stellate block; and, in cases showing definite but transient improvement, it may be well to consider blocking with more noxious chemicals, such as alcohol derivatives; or even employing sympathectomy.—E.D.M.

SOME OBSERVATIONS ON WOUND HEALING. Jack Mathews Farris and Thomas B. Jones. Surgery, Gynecology, and Obstetrics. Vol. 84, No. 2, pp. 203-213.

"This report is concerned with the management of wounds in a general hospital based in the United Kingdom and actively engaged in the treatment of wounded evacuated from the continent."

Following is the plan decided in management of these cases: "It was decided to make an earnest effort to close every wound either by secondary suture and, or, graft as soon as it was reasonably certain that the wound was not the site of active virulent infection. The closure of the wound was made the primary objective and the underlying fracture, nerve injury, foreign body, tendon injuries, or muscle defect, when present, were a secondary consideration. This policy was predicated on the premise that the best dressing for any wound is skin and the sooner it is applied the better is the ultimate prognosis of the associated injury.

"All wounds were closed as soon as possible. Some of the wounds were closed within three or four days, and many were closed during the first week. The majority were sutured or grafted between seven and fourteen days. It soon became apparent that the earlier the wounds were closed the better were the results.

"All wounds were dressed as soon as possible after admission. A simple, wet saline dressing was applied to all wounds to remove the caked sulfa crystals, vaseline, exudate, and old blood. All medication was stopped after admission, and subsequently given only in those cases in which there were systemic signs of infection. Maximum benefit from the wet dressings was usually obtained in two or three days. As soon as it was felt that the wound was reasonably free of all gross particulate and organic matter, closure or graft was done."

The article goes on in detail and discusses the actual surgical procedures as well as citing cases to illustrate points advocated. The following conclusions are worth careful consideration:

"(1) The 725 secondary wound closures of so-called contaminated wounds resulted in satisfactory healing.

"(2) The results in secondary closure are not appreciably altered by either sulfonamides or penicillin when applied locally at the time of closure.

"(3) One of the most important factors which has allowed surgeons to close compound fractures and large soft tissue defects, often times many days after the original wound, is the security afforded by the knowledge one possesses an agent (systemic penicillin and sulfonamides) which successfully combats hemolytic infection and prevents septicemia.

"(4) Secondary closure of granulating wounds can only be successfully performed when secondary debride-

(Continued on Page 214)

"A person's nutritional status today depends on the events of all past days."[1] Slight deficiencies should not be ignored "as if they were without effect," for "partially, indeed slightly deficient diets eaten regularly and periodically over many years have their consequences."[1] Such nutritional delinquency often takes its greatest toll under the stress of illness, surgery, pregnancy, lactation, or accident. For depleted tissues, Upjohn vitamins provide a wide range of dosage forms for therapy or supplementation, in preparations adapted to oral and parenteral administration in the practice of medicine and surgery.

1. National Research Council Bull. No. 109, 1943, pp. 18-21.

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BOOK REVIEWS

ALLERGY IN THEORY AND PRACTICE. Robert A. Cooke, M.D., ScD., F.A.C.P. 572 pp. with 43 illustrations. Price, $8. Philadelphia and London: W. B. Saunders Company, 1947.

This is a volume comprising contributions from 13 eminent workers in the field of allergy. Nine of these recognized contributors are Fellows of the American Academy of Allergy, and three are Fellows of the American College of Physicians. They comprise largely what is known as the "New York Group" of allergists and specialists in related subjects.

The material in this volume consists largely of the views of this group and investigations in the field of allergy and their application in postgraduate training recently offered at the Roosevelt Hospital, New York City.

The book contains nine sections and 32 chapters, an appendix, and 43 figures and color illustrations. Each chapter is brought into harmony with the views of the senior author. The author has emphasized the concept of infection as a causative and contributing factor in many phases of allergy, particularly of the respiratory system. He is the chief exponent of this theory. The presentation is well organized, well presented, and well supported.

The foreword, "Medical Education and Allergy," is excellent in that it gives concisely but briefly an outline for education in allergy, which is recognized by the author as being inadequate in most medical teaching institutions. One of the aims of this book is to compensate for this inadequacy through self education. It is also the author's aim "to make this book a useful one to those interested in the practical application of allergy in general practice and to students of allergy as well as to the scientifically minded who find allergy an alluring subject on account of the intricacies of its immunologic phases." In this the author has not wholly succeeded, because the text is extremely technical in some phases and very elementary in others. It seems a little too complicated for general practitioners and students, but excellent for those with experience and training in allergy.

The nomenclature is simplified and well revised, excluding many pet terms used by various authors which have tended to complicate the literature and make it difficult to understand.

The chapter on food allergy is conspicuous because of its brevity. There is some repetition which is unavoidable where so many contributors are involved. Some of the phases of allergy which are given briefly in most books dealing with allergy in general are excellently and thoroughly presented in detail in this book, namely: pathologic anatomic aspects of allergy, immuno-chemistry, infectious allergy, hyperplastic rhinitis, allergy of the skin, cardiovascular allergy, allergy of the nervous system, allergy of the eye.

On the whole the book covers well the most recent accepted advances and views of the field of allergy and is a valuable addition to the library of anyone dealing with any phase of allergy.

The publishers are to be commended on the excellent quality of the paper, printing, and binding of the book, and the authors on their excellent presentations of the subject matter.—Johnny A. Blue, M.D.

ELECTROCARDIOGRAPHY. Louis N. Katz, M.D. 883 pp. including index. Philadelphia: Lea & Febiger.

Dr. Katz' book is a very complete and almost encyclopedic treatise on the subject of electrocardiography. It belongs in the library of every physician who is interested in the diagnosis and treatment of heart disease. The principal asset of this book is its completeness. Most text books in the past have dealt with this subject in a rather fragmentary fashion; some fields have been covered excellently, while others have been completely neglected. The subject of precordial leads, in particular, is well covered and the treatment is up-to-date. The book is profusely illustrated with many examples of almost every conceivable condition. The bibliography has been well worked out and is quite complete. The usefulness of many text books is impaired by an inadequate index. A complete and detailed index is a most valuable feature of this text and greatly enhances its usefulness and the availability of the information.

The principal fault is a tendency to be somewhat overly dogmatic, and an attempt is made to draw lines somewhat too sharply in fields where there is too much overlapping. For example: The attempt to draw the line rather sharply between left axis shift, a normal variation, and left ventricular strain. Experience has, I believe, shown that however desirable this differentiation may be, it cannot be done with any degree of reliability with the criteria which are presently available. However, faults such as this are very minor when compared to the over-all excellence of the book.—H. A. Ruprecht, M.D.

EXERCISES IN ELECTROCARDIOGRAPHY. Louis N. Katz, M.D. 288 pp. including index. Philadelphia: Lea & Febiger.

This book by Dr. Katz is a companion volume to his text book on *Electrocardiography.* This consists of a series of a hundred unknown electrocardiograms which are available for study, and which may then be compared with the interpretation by the author and these findings coordinated with the physical findings, clinical course, and often autopsy findings on these patients. A wide variety of records is shown and in most instances these are quite typical of the conditions which they represent. This book should be invaluable to the beginner.—H. A. Ruprecht, M.D.

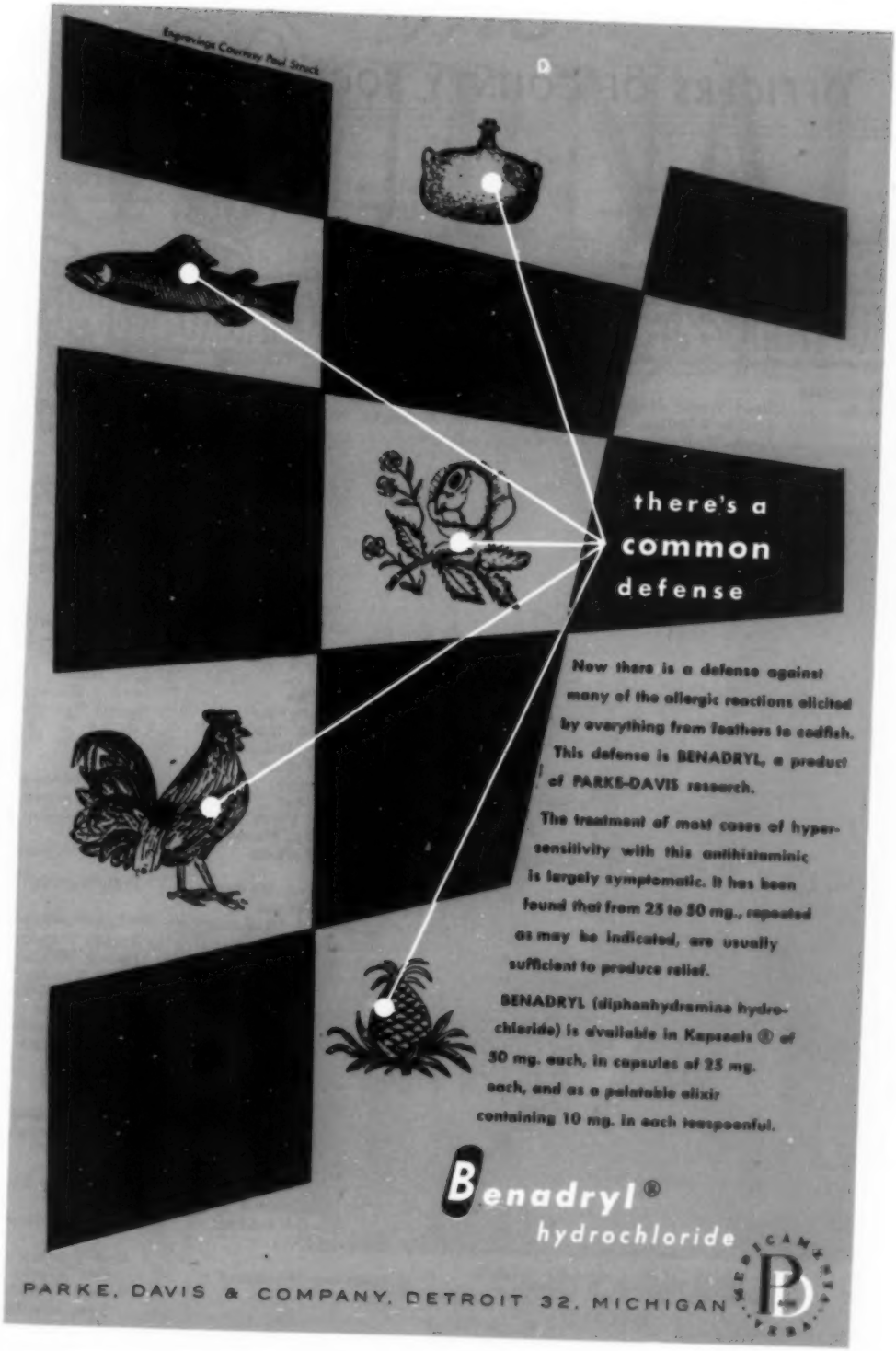
ABSTRACTS

(Continued from Page 212)

ment is carried out. The capacity for regeneration and repair as related to wound healing involves certain fundamental principles. Present experiences indicate more than ever the importance of a sound knowledge of the basic fundamentals of surgical principles. Careful debridement skillfully carried out is still the one most important single treatment for wounds. Without it no supplementary form of treatment will succeed."—J.F.B.

KEY TO ABSTRACTORS

E.D.M. .....Earl D. McBride, M.D.
J.F.B. .....John F. Burton, M.D.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Comanche	Leslie T. Hamm, Lawton	Byron W. Aycock, Lawton	Third Tuesday
Cotton	G. W. Baker, Walters	Mollie Scism, Walters	Third Friday
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Greer	Dwight D. Pierson, Mangum	J. B. Hollis, Mangum	
Harmon	W. G. Husband, Hollis	R. H. Lynch, Hollis	First Wednesday
Haskell	Wm. S. Carson, Keota	N. K. Williams McCurtain	
Hughes	Clyde Kernek, Holdenville	H. V. Schaff, Holdenville	First Friday
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Oklahoma	F. Redding Hood, Oklahoma City	George E. Kimball, Oklahoma City	Fouth Tuesday
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Seminole	Claude B. Knight, Wewoka	Mack I. Shanholtz, Wewoka	
Stephens	E. H. Lindley, Duncan	E. C. Lindley, Duncan	Third Wednesday
Texas	Daniel S. Lee, Guymon	E. L. Buford, Guymon	Third Wednesday
Tillman	G. A. Tallant, Frederick	O. G. Bacon, Frederick	
Tulsa	E. O. Johnson, Tulsa	John E. McDonald, Tulsa	
Washington Nowata	Thomas Wells, Bartlesville	L. B. Word, Bartlesville	Second and Fourth Monday
Washita	A. H. Bungardt, Cordell	Aubrey E. Stowers, Sentinel	Second Wednesday
Woods	C. A. Traverse, Alva	O. E. Templin, Alva	
Woodward	Myron England, Woodward	C. W. Tedrowe, Woodward	Last Tuesday Odd Months Second Thursday Even Months